In Two Sections—Section Two

Volume 42 Number 5

MECHANICAL ENGINEERING

THE JOURNAL OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

MAY 1920

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Organizing Conference of Engineers

Washington, D. C., June 3 and 4

THE Joint Conference Committee has issued a call to the engineering profession of the United States for an Organizing Conference to be held in Washington, D. C., June 3 and 4. This conference is being called for the purpose of effecting closer coöperation of local and national technical and allied organizations; to further the public welfare wherever technical knowledge and engineering training are involved; and to consider matters of common concern to these professions.

This action is taken pursuant to a resolution unanimously passed January 23, 1920, at a joint meeting of the governing boards of the Founder Societies and of the American Society for Testing Materials, the Trustees of the United Engineering Societies, and members of the Engineering Council. The resolution has been characterized as "the biggest item of news of its kind in the engineering history of this country". The engineering profession must now rise to the occasion. By united action they can realize the long-cherished ideal—a comprehensive organization dedicated to the service of the city, state and nation.

Spring Meeting, St. Louis, May 24-27

Headquarters at the Hotel Statler

THIS year's Spring Meeting promises to be one of the most attractive the Society has ever held. The Committee on Meetings and Program, in addition to the usual technical sessions, has planned for excursions to the world-famous water-power development on the Mississippi at Keokuk, and to Tulsa, the Hub of the Industrial Southwest. There will also be an opportunity to visit several of the leading industrial plants of St. Louis.

The technical features will cover a wide variety of topics—Mississippi River Transportation Problems; Housing; Appraisal and Valuation; Pulverized Coal Uses; Aeronautics; and Foundry Practice. If you are planning to attend the Spring Meeting, be sure to fill in and send to the Secretary the coupon facing page 263.

Coming Section Meetings

Atlanta Section. May 25: At the Carnegie Library Reading Room. Subject: Manufacture of Cotton Goods, by J. T. Wikle of Atlanta, Georgia.

Baltimore Section. May 7: At the Engineers' Club. Subject: Some Recent Developments in Heating and Ventilation, by Prof. John R. Allen of Pittsburgh, Pa.

Chicago Section. May 21: Luncheon and Excursion—probably to the works of the Western Electric Company.

Colorado Section. May (date to be announced): Joint Meeting with Sections of the National Societies, to be held in Boulder, Colo. Speaker to be announced later.

New Haven Branch. May 12: At the Mason Laboratory, Scientific School. Subject: Airplanes. Speaker to be announced.

Mid-Continent Section. May 28-29: Joint meeting A.S.M.E. and Oklahoma Section of American Chemical Society.

New York Section. May 11: At Engineering Societies Building. Subject: Symposium on Cost Accounting.

Ontario Section. May (date to be announced). In Hamilton. Expect to visit works of Canadian Westinghouse Company and furnaces, smelters and mills of the Steel Company of Canada.

Philadelphia Section. May 25: Annual Dinner at the Philadelphia Engineers' Club. Several prominent men will speak, and past chairmen will give short talks.

San Francisco Section. May (date to be announced). Joint meeting with Leland Stanford and Berkeley University Student Branches.

Washington, D. C., Section. May 17: At the Bureau of Standards in Industrial Building. There will be an exhibit of gas and electric welding at 5.30, a dinner at 6.30, with a short talk on "Should Junior Members Vote?" and a professional session at 8 p. m. on Gas and Electric Welding.

SOCIETY AFFAIRS

Secretary's Letter—Professional Sections—A. S. M. E. Council Meeting—Changes in Constitution, By-Laws and Rules—Report of the Special Committee on Committees—Personals—Necrology—Section Meetings—Employment Bulletin—Candidates for Membership

The Secretary's Letter

THE accompanying foreword, just written by Dr. Henry Van Dyke, our distinguished author and former ambassador, referring to a local activity of the medical profession, is equally applicable to the members of the engineering profession in connection with their civic activities in local societies and sections:

If the people of the community who are thoroughly good in themselves would also be good for others, they would have power to lift up the whole tone of life and would be ten times more happy and more useful. Doing one's duty on the side of the neighborhood leads to the best results on the side of personality.

The drop of good-will in all our experiments! The touch of kindness in all our efforts! The purpose of beneficence in all our plans. For a year, a month, even a week, do you think we can do it?

On Sunday, April 11, I attended the wonderful tribute paid to our beloved honorary member and past-president, Uncle John Brashear, by the citizens of Pittsburgh.

An account of the memorial service, at which the attendance was variously estimated from 6,000 to 10,000, appears in another column. The comment which summarized the opinion of many was given by one of Pittsburgh's leading citizens, who said, "This tribute shows that it is still worth while to lead a kindly life." Another said, "His eminence was the result of his goodness, his simplicity, his humility and his servitude to man."

In Washington, May 6 and 7, I believe, the Interprofessional Conference is to hold another meeting and still further try to get the members of all the professions to rid themselves more and more of self-interest, and to maintain the highest ideals of professional men through the use of their talents for the service of others.

In June, also in Washington, will be the conference of all the engineering societies of the United States, called by the Joint Conference Committee.

Engineers have a tremendous responsibility in their ambition to merit public confidence and regard, and only by making it apparent that their public services are of greater concern than their private interests can they take rank with the other professions. I am bound to believe that much of the advance in the prestige of the engineering profession in the progress of the war is due to the unselfish character of the work performed rather than to the contribution of technical skill which the engineer is peculiarly equipped to furnish.

Every one who can attend the engineer's conference and contribute to the high standard which is the impelling motive for this inclusive coöperative movement, should do so.

CALVIN W. RICE,
Secretary.

Council of A. S. M. E. Adopts Resolution Regarding Metric System

Recently a number of articles have appeared in various publications stating in effect that The American Society of Mechanical Engineers had placed itself on record as being opposed to the metric system. This matter was presented to the Council of the Society and the following resolution was adopted:

> *Resolved:* That this Society, as a Society, does not and has not taken any stand in favor of or against the metric system, that notice to this effect be published in The Journal of the Society, MECHANICAL ENGINEERING, and that this fact be given such further publicity as may be approved by the President.

It was the unanimous opinion of the members of the Council both at the meeting in Baltimore on February 27 and at the March 19th meeting that while members of the Society and of the Council might properly and would naturally hold various opinions regarding the metric system and its introduction here, it was not advisable nor desirable that the Society place itself on record either for or against the system or its introduction and it is not desired that publications shall appear representing that the Society has taken any such position.

1920 Nominating Committee

In the last issue of MECHANICAL ENGINEERING, the date of May 1 was set as a last date for receiving suggestions of names to fill the elective offices in the Society.

However, on account of the times it is necessary to allow a few days' extension on all dates, and the Nominating Committee will be glad to receive such suggestions if the members will mail them in as soon as possible. Any suggestions may be sent to the Secretary or to the following addresses: H. P. Fairfield, Worcester Polytechnic Institute, Worcester, Mass.; George K. Parsons, 29 Pine St., New York City; George A. Weschler, Catholic University of America, Washington, D. C.; E. H. Whitlock, 910 American Trust Building, Cleveland, Ohio; George W. Galbraith, 1504 First National Bank Building, Cincinnati, Ohio; C. B. Lord, 5575 Chamberlain Ave., St. Louis, Mo.; Robert Sibley, 171 Second St., San Francisco, Cal.

Professional Sections

The Special Committee on Professional Sections has now been organized and the following is the personnel of the Committee:

HOWARD E. COFFIN, Detroit, Mich.....*Aeronautics*
FRANCIS W. KELLY, Albany, N. Y.....*Cement*
DAVID M. MYERS, New York.....*Fuel*
GEORGE A. ORROK, New York.....*Gas Power*
HENRY J. EBERHARDT, Newark, N. J.....*Machine Shop*
ROBT. H. FERNALD, Philadelphia, Pa.....*Power*
C. F. HIRSHFELD, Detroit, Mich.....*Ordnance*
E. B. KATTE, New York.....*Railroads*
GEORGE H. PERKINS, Boston, Mass.....*Textiles*

The Organization Meeting was attended by President Miller, who considered that the new sections proposed were opportune and would keep the membership in close touch with the fields of their activity. The sections would probably be able to get very good material for papers, both as to timeliness and intrinsic value.

Each member present at the meeting participated in a round-table discussion on the possibilities of his particular section, following which the meeting elected Mr. E. B. Katte as permanent chairman of the Special Committee.

The meeting adopted a resolution defining the functions of the committee as follows:

> The functions of the Committee on Professional Sections are to form, foster and coördinate technical sections as the demand arises. The object of the professional sections is to promote the mechanical engineering of the arts to which they are devoted, either by the preparation of technical papers, discussions and debate, or by technical research.

This resolution was later referred to the Council and adopted by that body and in turn referred to the Committee on Constitution and By-Laws to be formulated into a By-Law specifying the duties of the Standing Committee on Professional Sections when created.

At the close of the meeting each member of the committee was instructed to prepare and mail a letter to all men who might be

interested outlining the plan to be followed in forming a section, and when suffieient interest was aroused in any Professional Section to call a meeting to draw up a petition for a section in accordance with the By-Laws of the Society.

Under this procedure Mr. E. B. Katte, representing Railroads on the Main Committee, called a conference of members of the Society interested to adopt a resolution to petition the Council to form a Railroad Section. Mr. Katte was made chairman of a Committee on Organization to draft the petition and to secure the necessary signatures. The petition was presented to the Council at its meeting on April 19 and was accepted and the section is now therefore in operation. The next step is to hold an election of officers, which will be done by letter ballot among all those members who have signed the petition. Sixty-five members signed the petition for this section.

A. S. M. E. Council Meeting

Budget of Finance Committee Approved—Functions of Committee on Professional Sections Defined—Policy on A.S.M.E. Student Branches Outlined

The regular monthly meeting of the Council was held in the rooms of the Society on Friday, March 19, at 10 o'clock. There were present: President, Fred J. Miller; Vice-Presidents, Fred R. Low, Henry B. Sargent, John R. Allen; Past-Presidents, Ira N. Hollis, D. S. Jacobus, Charles T. Main; Managers, D. Robert Yarnall, Charles L. Newcomb, Frank O. Wells, E. C. Fisher, Dexter S. Kimball, Earl F. Scott; Chairmen of Standing Committees: *Finance,* George M. Forrest; *Local Sections,* E. S. Carman; *Constitution and By-Laws,* represented also by Mr. Carman, and *Secretary,* Calvin W. Rice.

Finance Committee. The budget of the Finance Committee, reported by its Chairman, Mr. George M. Forrest, of appropriations for the last six months of the current fiscal year was approved, and the following table shows the total expenditures for the year now authorized.

APPROPRIATIONS FOR FISCAL YEAR ENDING SEPTEMBER 30, 1920

Office Administration			$48,000
Assessments, U. E. S., etc			24,400
Council and Contingencies			12,500
Cost of Journal Text	$70,000		
Cost of Journal Adv	58,000		
Total	$128,000		
Less Est. Adv. Receipts	97,000	$31,000	
Cost of Cond. Catalogues	35,500		
Less Adv. Receipts	50,000	—14,500	
Cost of Transactions		32,000	
Cost of Year Book		14,050	
Total		$62,550	
Less Net Income From Sales		10,250	
Net Cost of Publications			$52,300
Journal Development ($19,500 Loan from Reserve to Be Repaid)			
Local Sections			43,675
Membership			5,700
Meetings, General			16,200
House			2,275
Student Branches			850
Research			2,500
Standardization and Technical Committees			10,400
Miscellaneous			1,550
Unexpected Current Expenditures			5,000
Reserve			11,250
Total			$236,600

Expenditures in excess of income ($20,000) authorized by Council to be met from reserve.

Meetings and Program Committee. In accordance with the recommendation of the Committee on Committees, concurred in by the Committee on Meetings and Program, the former subcommittees of the Committee on Meetings and Program were discharged with the thanks of the Council, and with the hope that their work could be merged into that of the new Professional Sections now in process of organization.

Local Sections. A petition for a section at Providence, Rhode Island, was received and approved, and an affiliation of this section with the Providence Engineering Society was approved and encouraged.

The Chairman of the Committee on Local Sections suggested a place for Spring meetings of the Society and joint meetings of the Local Sections for 1920-21, which was referred to the Committee on Meetings and Program.

Professional Sections. The Committee on Professional Sections, through its Chairman, Mr. E. B. Katte, submitted the following definition of the functions of the Committee:

The functions of the Committee on Professional Sections are to form, foster and coördinate technical sections as the demand arises. The object of the professional sections is to promote the mechanical engineering of the arts to which they are devoted, either by the preparation of technical papers, discussion and debate, or by technical research.

The Committee on Constitution and By-Laws was asked to phrase this definition of the functions of the Committee into a suitable By-Law to be incorporated.

Boiler Code Committee. Cases No. 273, 274, 275, 276, 277, 280, 281, 282, which have been mailed to the Council, with corrections to Cases 277 and 280, were approved and ordered printed in MECHANICAL ENGINEERING.

The name of the Sub-Committee to Prepare Specifications for Steam Piping to be embodied in the Code was changed to Sub-Committee to Prepare Specifications for Steam Piping, Valves and Fittings to be embodied in the Code, the scope of the Committee to be correspondingly broadened.

A question of submitting the Boiler Code to the American Engineering Standards Committee for adoption was deferred at any rate until after the next revision of the Code.

Power Test Codes. G. E. Goodenough, C. F. Hirshfeld and R. J. S. Pigott were approved as members of the Main Committee; Gardner T. Voorhees on the Individual Committee on Refrigerating Machines and Plants; two additional members of the Individual Committee on Fuels, and J. J. Mullan on the Individual Committee on Condensers, Water Heating and Cooling Equipment.

Code of Ethics. The Special Committee on a Code of Ethics submitted a proposed code which was ordered distributed to the members of the Council for investigation and action at the April Meeting, after which the Code will be printed and distributed to the entire membership at the Spring Meeting.

Metric System. It was voted that the Society, as a Society, does not and has not taken any stand in favor of or against the Metric System and that notice to this effect be published in The Journal of the Society, MECHANICAL ENGINEERING, and be given such further publicity as may be approved by the President.

Relations with Colleges. The following standards for Student Branches were adopted:

SUGGESTED POLICY ON STUDENT BRANCHES OF THE A. S. M. E.

The general definition by the Carnegie Foundation of the qualifications under which a college would be eligible to association with the Foundation does not seem entirely satisfactory, in the decision of the Committee on Relations with Colleges, as a standard of the eligibility of the universities and colleges in the establishing of student branches in the A.S.M.E. There are certain principles that should prevail, although circumstances may warrant some exceptions. In general, the Committee on Relations with Colleges will be governed by the following:

1 The students applying for a branch must be members of a college requiring as a preparation for entrance four years at the high school, or its equivalent.

2 There must be in the faculty an adequate staff for teaching mechanical engineering. Where there is only one professor, the importance of mechanical engineering in the university or college seems too small to warrant establishing a Student Branch of the Society.

3 There should be at least one member of the engineering faculty who is a member of the A.S.M.E. Otherwise there is no connecting link between the Society and the college.

4 There should be a sufficient number of eligible students to form an active Student Branch of the Society. Heretofore fifteen has been about the minimum on which a Student Branch has been accepted.

5 An equipment in the nature of buildings and laboratories should be sufficient to make a respectable professional course in mechanical engineering possible. It is quite easy to understand that the use of surrounding industries may supplement the laboratories or even largely replace them.

6 The course of studies should cover all the subjects ordinarily required to enable a graduate to begin his career in engineering. He should be eligible as an assistant, and should be able to do a certain amount of independent work in the drafting room, and in the industries.

It is proper to suggest to any college or university the desirability of having a general engineering society, where the department of mechanical engineering is too small to warrant a student branch of the A.S.M.E.; at the same time, the Commiittee would be disposed to define mechanical engineering in very general terms.

The Committee on Relations with Colleges recognizes the value of work done in many institutions that have low entrance requirements, and there is no desire to classify them as inferior to the more advanced engineering colleges. It is simply that their field is different. Where the course of studies is substantial and the teachers are men of well recognized standing, the Committee would feel disposed to relax on a rigid insistance in college entrance requirements.

New rules for Student Branches were also adopted and ordered incorporated in the Rules of the Society.

The petition for a Student Branch for Montana State College of Agriculture and Mechanic Arts was approved.

Education and Special Training below Grade of College Work. Dr. Hollis, Chairman of the Committee on Relations with Colleges, recommended that in accordance with the recommendation of the Committee on Aims and Organization this Society appoint a committee to investigate what the Society should do in the field of industrial education below the grade of college work, thereby supplementing the work of the Committee on Relations with Colleges, and the President was authorized to appoint a committee to study and report back to the Council.

Charles T. Main Award. It was voted that the income from the Charles T. Main Fund be used for a cash prize of $100, to be known as the Charles T. Main Award, and to be given to a member of the Society who wins Life Membership in any given year for the presentation of a superior paper.

Invitations. The invitation from the University of North Carolina to the Inauguration of Harry Woodburn Chase as President of the University on April 28 was accepted.

Adjournment was taken to meet in the Congress Hotel, Chicago, April 19, at 10 a. m. in connection with the joint meeting of the governing board of the Western Society of Engineers with the boards of the Founder Societies.

CALVIN W. RICE, *Secretary.*

Changes in Constitution, By-Laws and Rules

Providing for the Election of a Nominating Committee by the Voting Membership, Broadening the Scope of the Publication Committee and Prescribing the Duties of the Committee on Professional Sections

THE adoption by the Council of the reports of two important committees—the Committee on Aims and Organization, and the Committee on Committees—and the putting into effect of the recommendations embodied in them has developed the necessity for certain changes in the Constitution, By-Laws and Rules, which are being supervised by the Committee on Constitution and By-Laws so that when all activities are finally settled and working under the new arrangements the documents will be up to date.

The fundamental changes in procedure determined on so far are incorporated in Amendments to the Constitution which will come up for final action at the semi-annual business meeting of the Society to be held at the Spring Meeting in St. Louis on May 24th. These constitutional Amendments were published in MECHANICAL ENGINEERING, issue of November 1919 (Sec. 2, p. xvi). They have since been balloted on and the action at the Spring Meeting is to announce the result of the ballot.

The provisions of these Amendments are briefly as follows:

1 To create a Standing Committee on Professional Sections.

2 To extend the privilege of a seat on the Council to the Chairman of all the Standing Committees.

3 To provide for the adoption by the Society of reports, standards, formulæ or recommended practices.

4 To provide for the termination of membership on the Council or any committee on account of absence, either willful or due to force of circumstances. All these provisions were originally recommended by the Committee on Aims and Organization.

NEW MANNER OF ELECTING OFFICERS

Changes in the By-Laws to provide for the election of the Regular Nominating Committee by the voting membership have now all been worked out by the Committee on Constitution and By-Laws and have been adopted by the Council. These changes are of importance and are here published in full. They are based on a new schedule for the election of officers which was recommended by the Committee on Aims and Organization and which was referred to in the March issue of MECHANICAL ENGINEERING.

The regular Nominating Committee shall be composed of seven members nominated prior to the Annual Business Meeting by the delegates of the Local Sections, and elected by the Society at the Annual Meeting. Each Local Section delegate shall have been selected by election from the voting members of the Society being assigned to some Local Section by the Committee on Local Sections, exclusively for the purpose of selecting the Local Sections delegate. The members of the Regular Nominating Committee shall be elected for one year, and no member shall be eligible for more than two consecutive terms.

On or before October 1 of each year the Committee on Local Sections shall apportion among the Local Sections all of the voting members of the Society as of October 1, and shall notify the Executive Committees of the various Local Sections and the Secretary of the Society of these distributions.

Each Local Section shall, on or before the second Thursday in November, elect its Local Section delegate in any manner that it sees fit, and shall then immediately notify the Secretary of the Society of such election.

B-29 The Secretary shall publish the names of the Nominating Committee in the February issue of MECHANICAL ENGINEERING, together with a request to the voting membership of the Society that they recommend to the Committee the names of eligible persons for the elective offices to be filled at the next election.

B-30 The Nominating Committee shall deliver to the Secretary in writing between the first and fifteenth of May the names of its nominees for the various elective offices next falling vacant under the Constitution, together with the written consent of each nominee. The names of the nominees for the various offices proposed by this Committee shall be published by the Secretary under the names of the Committee in the June issue of MECHANICAL ENGINEERING.

B-31 A Special Nominating Committee, if organized, shall on or before the first Tuesday in August present to the Secretary the names of its nominees for the elective offices next falling vacant under the Constitution, together with the written consent of each nominee. The names of the nominees for the various offices proposed by this committee shall be published by this Committee in the September issue of MECHANICAL ENGINEERING.

The president shall, on or before the third Thursday in August of each year, appoint three Tellers of Election of Officers, whose duty shall be to canvass the votes cast and certify the same to the President or Presiding Officer at the first session of the Annual Meeting. Their term of office shall expire when their report of the canvass has been presented and accepted.

The voting for the election of officers shall close at 10 o'clock in the forenoon on the last Tuesday in September in each year. The tellers shall not receive any ballot after the stated time for the closure of the voting. The Tellers shall first open and destroy the outer envelopes and shall then open the inner ones, canvass the ballots and certify the result to the Secretary not later than the first day of October. The Secretary shall then announce the candidates having the greatest number of votes for their respective offices, and their names shall be published in the November issue of MECHANICAL ENGINEERING. The officers shall be declared elected by the Presiding Officer at the Annual Meeting in December and their terms of office begin on the adjournment of the Annual Meeting.

During the month of October the President-elect shall select from the membership of the Society members to fill all impending vacancies in the Standing Committee whose appointment shall be formally announced at the first Council Meeting following the Annual Meeting

Prior to, or during, the Annual Meeting the members of each Standing Committee whose terms do not expire at the termination of the Annual Meeting, and the newly selected members, shall organize and choose a chairman to serve for one year, whose name shall be announced at the first Council Meeting following the Annual Meeting, the organization to become effective on the adjournment of the Annual Meeting.

A member of a Standing Committee whose term of office has expired shall continue to serve until his successor shall have been appointed. The President shall appoint the Chairman of each Professional Committee.

President May Function for Treasurer

A slight change has been made in the By-Laws to enable the President to make payments for the Society, as well as the Treasurer, and both these officers will be placed under bond. The Amendment reads as follows:

The President or Treasurer may make payments, and shall make them only on the audit of the Finance Committee or upon the direction of the Council, by resolution of that body. They shall furnish a bond for the faithful performance of their duties to such amount as the Council may require, such bonds to be procured from an incorporated guarantee company, at the expense of the Society.

Scope of Publication Committee Broadened

The scope of the Publication and Papers Committee has been more clearly defined in an Amendment to the By-Laws describing the duties of this Committee. The new By-Law follows:

The Publication and Papers Committee shall consist of five Members, Associates or Associate-Members. The term of office of one member shall expire at the end of each Annual Meeting. The Committee shall have the supervision of all the publications of the Society.

In its conduct of MECHANICAL ENGINEERING, the Journal of the Society, the Committee will be expected to publish such material as will be of value to engineers in the practice of their profession, and information upon society affairs, papers and discussions given at meetings, original contributions, reviews of engineering literature, and news items may be included.

The Committee shall also review all papers and discussions contributed to the Society to decide what papers and discussions or parts of these shall be printed in the Transactions.

At the end of each fiscal year, the Committee shall deliver to the Council a detailed report of its work.

By-Laws on Professional Sections

Now that the Professional Sections are being organized, the Committee on Constitution and By-Laws has under consideration a new By-Law to prescribe the duties of Committee on Professional Sections, which will administer this activity under the direction of the Council. By-Laws detailing the operation of these sections are already in effect, having been formulated some three years ago at the time the Local Sections By-Laws were drafted. The Council has adopted the following slight amendment regarding dues of affiliates of Professional Sections:

They (Affiliates) shall pay ten dollars ($10) per annum, which shall be due and payable in advance on October 1 of each year of their enrollment, and shall thereby be entitled to receive the regular issues of The Journal for a period covered by such subscription.

Slight Changes in Local Sections Rules

On recommendation of the Committee on Local Sections the Council has adopted an Amendment to the By-Laws covering Local Sections to change the term "Local Members" to "Affiliates." The following is the amendment:

Any other person interested in engineering may be invited by the Local Committee to join its Section as an *Affiliate*, but he shall not have the right to vote or hold office. Such Affiliate shall pay dues to the Section not to exceed $5 per annum, which shall be due and payable in advance on October 1 of each year of his enrollment. Affiliates shall not be considered in the allotment of expenses to the Section.

An Amendment to the same set of By-Laws, extending the privilege of attending meetings of the Committee on Local Sections to the chairmen of all executive committees of Local Sections has also been adopted.

Other Amendments Pending

There still remain amendments to the Rules governing Student Branches; these have been suggested by the Committee on Relations with Colleges and are now in the hands of the Committee on Constitution and By-Laws.

Also, a Special Committee chosen from the Local Sections is reporting to the Council on the Rules for Conducting Meetings of the Society, and their recommendations will be incorporated as soon as accepted.

The 1920 Year Book will contain a complete copy of the Constitution and By-Laws, corrected to the last Annual Meeting and with footnotes including all Amendments under consideration at the present time.

CALVIN W. RICE,
Secretary.

Report of the Special Committee on Committees

Recommending the Classification of Committees, the Appointment of Committeemen for a Definite Term of Years, the Compiling of a List of Those Eligible for Service and the Discharging of Certain Committees Whose Work Is Otherwise Distributed

Important recommendations concerning the committees of the Society are made in the report of the Special Committee on Committees which was appointed by the Council in December to make a general investigation of the committee work and which presented its report to the Council at its January meeting, when it was received and adopted and ordered published in MECHANICAL ENGINEERING. The report follows:

TO THE COUNCIL OF THE A.S.M.E.:

Gentlemen:

Your Committee on Committees appointed at the December Council Meeting beg to submit the following report:

The Committee has held three meetings: December 4, December 29 and December 30.

The Committee makes the following recommendations:

Classification of Committees

For the purpose of classifying Committees in the published lists of the Society and without changing the Constitution and By-Laws of the Society, the Committee recommends that all Committees be listed under Administrative Committees, Professional Committees and Non-Professional Committees, and that in each of these classes there be two divisions, Standing Committees and Special Committees.

Administrative Committees are those devoted to the conduct of the business affairs of the Society.

Professional Committees are those concerned with the professional activities of the Society and to the divisions of Mechanical Engineering with which the Society is concerned.

The Non-Professional Committees are those interested in subjects of a non-professional nature which are not administrative.

Standing Committees are Committees appointed for a continuous existence to act on specific subjects referred to them and upon all matters relating to these subjects as they occur.

Special Committees are those appointed for specific work and for a specific term of service.

The Committees of the Society known at present to the Committee on Committees will be listed as follows:

Administrative Committees

Finance	Standing Committee
Meetings and Program	" "
Publication and Papers	" "
Membership	" "
Constitution and By-Laws	" "
Local Sections	" "
House	" "
Library	" "
Relations with Colleges	" "
Awards and Prizes	" "
Regular Nominating Committee	Special Committee
Special Nominating Committees	" "
Tellers of Election	" "

Committee on Committees.....Special Committee
Rules for Conducting Meetings.....Special Committee

PROFESSIONAL COMMITTEES

Air Machinery.....Special Committee
Boiler Code.....Standing Committee
Sub-Committees of Boiler Code.....Special Committees
Executive Committee
Sub-Committee on Air Tanks and Pressure Valves
Sub-Committee on Boilers of Locomotives
Sub-Committee on Rules of Inspection
Sub-Committee on Welding
Sub-Committee on Miniature Boilers.
Foundry Practice.....Special Committee
Gas Power.....Special Committee
Industrial Buildings.....Special Committee
Machine Shop Practice.....Special Committee
Power Test Code.....Standing Committee
Divisional Committees of Power Test Code.....Special Committees
Professional Sections.....Standing Committee
Railroads.....Special Committee
Rehabilitation of the Blind.....Special Committee
Research.....Standing Committee
Special Committees of Research.....Special Committees
Standardization.....Standing Committee
Textiles.....Special Committee
Committee on Standardization:
Feedwater Heaters.....Special Committee
Protection of Industrial Workers.....Special Committee
Small Tools and Machine Tool Elements.....Special Committee
Shafting.....Special Committee
Steel Roller Chains.....Special Committee
Screw Threads and Threaded Parts.....Standing Committee
Flanges and Pipe Fittings.....Special Committee
Tolerance in Screw Thread Fits.....Special Committee
Technical Nomenclature.....Standing Committee
Weights and Measures.....Standing Committee
Code of Ethics.....Special Committee

NON-PROFESSIONAL COMMITTEES

S. T. Wellman Memorial.....Special Committee
Carnegie Resolutions.....Special Committee
War Participation and Members' Memorial.....Special Committee

SOCIETY REPRESENTATIVES AND OTHER MEMBERS OF JOINT ACTIVITIES

American Association for the Advancement of Science
American Engineering Standards Committee
Bureau of Mines, Advisory Committee
Bureau of Mines, Sub-Committee on Equipment
Bureau of Mines, Sub-Committee on Fuels
Conference Committee to Determine Cost of Electric Power
Conference Committee on Boiler Code Specifications for Materials
Conference Committee on Heating Section of Boiler Code.
Engineering Council
Engineering Foundation
Engineering Education
Gage Committee
John Fritz Medal
Joseph A. Holmes Memorial
National Research Council
Naval Consulting Board of the United States
Trustees United Engineering Society
Washington Award of the Western Society of Engineers

APPOINTMENT, TENURE OF OFFICE AND CHAIRMANSHIP

The Committee recommends that the appointment to membership on any Standing Committee be set for a definite term of years, and in appointing a Committee, the term of office of each member shall be so specified by the President of the Society that not more than two-fifths of the members shall retire at the end of any year.

Special Committees which are appointed for a single or specific purpose requiring only a brief or temporary service should be discharged upon the acceptance of their report. When Special Committees require a year or more to complete their work, the members shall be appointed for a definite time, subject to reappointment on submitting a Progress Report requesting further time. They are to be discharged upon the acceptance of any final report.

In creating a Committee, the Council should determine whether or not the Committee is to be a Standing Committee or a Special Committee.

The President shall specify the terms of office of the several members of a Committee when the Committee is first appointed, and in appointing new members to succeed others whose terms of Committee membership have expired, the terms of such appointments shall be for the longest period of membership on such a Committee. In appointing a member to succeed another member who ceases to act on a Committee or who resigns, the appointment shall be for the unexpired term of the person whose place he has taken.

In appointing a new Committee the President shall designate the Chairman, but after the Committee has served for a year it may choose its Chairman subject to the approval of the President.

It is recommended that an effort be made to appoint two-fifths of the Committee membership from the younger men of the Society.

It is recommended that whenever a Committee member fails to participate in the Committee work, the President shall inquire the reason therefor, and, if advisable, call for the resignation of such a member.

COMMITTEE MEMBERS FROM ONE LOCAL SECTION OR ADJACENT SECTION

In appointing Special Committees for definite work, it is recommended that when practicable the whole Committee be selected from one Local Section of the Society or from a group of Local Sections adjacent to each other.

MEMBERSHIP ON SEVERAL COMMITTEES

It is recommended that the number of Committees on which one member of the Society may serve at any one time shall be limited to three, except for temporary service, where special qualifications should govern the selection.

LIST OF ELIGIBLE COMMITTEEMEN

In order to secure a list of men available for service on Committees it is suggested:

1 That a letter be prepared asking a member if he is willing to serve on Committees and to state on what subjects he is best qualified. This letter is to be sent out as an enclosure in some future communication.

2 That statements be published at intervals in MECHANICAL ENGINEERING covering this subject in proper form to secure attention.

3 That the Executive Committees of the Local Sections and the deans of engineering schools be requested to furnish names of available men qualified for Committee work.

ROTATION IN MEMBERSHIP

It is recommended that as far as possible the membership of a Committee be rotated so as to secure the services of more members and to permit a change in Committee procedure.

VISITS OF CHAIRMEN

It is recommended that the Society pay the traveling expenses of the Chairmen of its Committees for the purpose of visiting members of the Committee or bodies interested in the work of the Committee when this traveling is done for the development of the Committee activities.

REPRESENTATIVES ON JOINT ACTIVITIES REPORTED TO COUNCIL

It is recommended that the senior representatives of the Society on each of the joint activities in which the Society is represented be requested to keep the Council informed of the activities of these bodies. Annual reports to the Council are to be required from these representatives.

In listing the Society's representatives on joint activities, it is recommended that the names of the representatives of other societies appear in the list when such list is not too large.

TRAVELING EXPENSES OF COMMITTEES

The value of the Society to its members, to the profession and to the world depends on the work of its Committees to a great extent. The value of its publications is increased by the work of these Committees, and Committee work must be continued. The Society expenses of non-active members of the Society are merely the annual dues. The Society expenses of the active members of the Society are not only the dues but the traveling expenses and time given to the Society's work. In some cases the time is contributed by the employer, but in many cases the time is given by the member. The Council will call to mind many illustrations of this fact. It is difficult to secure members from a distance on certain active Committees on account of the traveling expenses necessary in such cases. For these reasons it is recommended that as funds become available one of the best uses to which they can be put is to pay the traveling expenses of the members of the Committees. As the income from the publications of the Society increases, it is the belief that in place of reducing the dues it would be well to continue these as at present and use any surplus for the traveling expenses of Committee members.

COMMITTEES

The Committee has investigated the activities of the Committees of the Society and makes the following recommendations regarding them:

It is recommended that the Standing Committee of Public Relations be discharged, its functions being cared for by Engineering Council.

It is recommended that the Committee on Machine Screw Nuts be reorganized as a Standing Committee with broader powers, to handle such matters as the standardization of nuts and the heads of rivets, bolts and screws.

It is recommended that the old Committee on Machine Tool Standardization be discharged and that a uew Committee on Standardization of Small Tools and Machine Tool Elements be organized.

It is recommended that the Standardization Committee be requested to act as the Committee to advise the Council from time to time on the advisability of appointing new Committees on Standardization of Specific Matters, and to serve as the connecting link between the A.S.M.E. and the American Standardization Committee.

Respectfully submitted,

M. E. COOLEY, *Chairman*,
F. R. LOW,
D. S. JACOBUS,
A. M. GREENE, JR.,
D. S. KIMBALL.

PERSONALS

In these columns are inserted items concerning members of the Society and their professional activities. Members are always interested in the doings of their fellow-members, and the Society welcomes notes from members and concerning members for insertion in this section. All communications of personal notes should be addressed to the Secretary.

CHANGES OF POSITION

LYLE B. MARCY, formerly superintendent of the Hart and Cooley Company, Inc., New Britain, Conn., has become connected with the Chase Companies, Inc., Waterbury, Conn., in the capacity of research engineer.

ERNEST C. VAN WINKLE, formerly assistant engineer, construction department, Chile Exploration Company, New York, became associated with the Ford, Bacon and Davis Company, New York, in the capacity of valuation engineer.

ERWIN A. WEISS has resigned as assistant manager of methods with the Isko Refrigerator Company, Chicago, Ill., to accept a position as service engineer with the Mitchell Motors Company, Racine, Wis.

FRANK R. DUVIC has severed his connection as overseer with the U. S. Engineering Office, New Orleans, La., and is now in the employ of the West India Sugar Finance Corporation, Cayo Mambi, Oriente, Cuba.

HAROLD D. BLISS has resigned as chief mechanical engineer for Morris and Company, of Chicago, Ill., and has become associated with B. P. Lientz, of the B. P. Lientz Oil Furnace Company, New York.

CLINTON E. HAVER has resigned his position with Willard Case and Company to accept the position of works engineer with The Hooven and Allison Company, Xenia, Ohio.

P. B. WESSON has left the Clinton Wright Wire Company, Palmer, Mass., where he was employed as mechanical superintendent for the past six years, and has acquired an interest in and has been made secretary of the Hampden Brass Company, Springfield, Mass.

JOHN A. LAWRENCE, formerly assistant mechanical engineer, The New York Edison Company, New York, has assumed the position of engineering manager for Thomas E. Murray, Inc., New York.

JOHN SHARP, until recently connected with the Ferguson Steel and Iron Company, has become connected with the hull drafting department of the Submarine Boat Corporation, Newark, N. J.

JAMES U. NORRIS has resigned his position as assistant superintendent of the Presbyterian Hospital, New York, to become the superintendent of the Woman's Hospital in the State of New York, New York City.

ANNOUNCEMENTS

CHARLES H. TAVENER, mechanical engineer, Garden City, L. I., has resigned from the Garden City plant of the Curtiss Aeroplane and Motor Corporation and announces that he has started the practice of consulting industrial, production and aeronautical engineering, with laboratory facilities for testing and development work in New York and Boston. During the war, Mr. Tavener did mathematical designing and production engineering with the Curtiss Engineering Corporation.

JOSEPH W. BERGER, formerly inspecting engineer for the Construction Division of the War Department, has resigned his position and become connected with the New York office of the Locomotive Superheater Company.

JOHN S. BLACK has received his discharge as Lieutenant-Colonel, Ordnance Department, U.S.A., and has assumed the duties of Assistant Machinery Sales Manager, New Britain Machinery Company, New Britain, Conn.

D. ROBERT YARNALL has left for Germany for a period of three months to assist in the distribution of food to the children and needy mothers of that country under the direction of Herbert Hoover's relief administration.

COLONEL JAMES B. DILLARD, formerly chief of engineering division, Ordnance Department, has resigned his commission in the Army and is now a member of the executive staff of the Cleveland Twist Drill Company, Cleveland, Ohio.

HENRY B. LANGE has retired from the United States Shipping Board, Emergency Fleet Corporation, to become secretary of the Malleable Chain Manufacturers' Institute of Chicago, Ill.

LAURENCE W. HAYES has resigned as Cleveland sales manager for the Worthington Pump and Machinery Corporation and is now associated in business with F. N. Hayes and J. N. Hayes, in Boston.

H. W. JARRETT, formerly assistant fuel engineer, U. S. Bureau of Mines, Pittsburgh, Pa., has assumed the duties of sales engineer with the George J. Hagan Company, combustion engineers, Pittsburgh, Pa.

HARRY DEVERELL has severed his connection with the Deverell, Spencer & Company, which he incorporated and in which he served as president and treasurer, and has opened offices in Baltimore as a sales engineer for machinery, especially elevating, conveying and power transmission machinery.

LLOYD C. FARQUHAR, formerly Captain, Ordnance Department, U. S. A., stationed at Cincinnati, Ohio, has accepted a position as assistant works manager with the American Steel Foundries, in their branch office at East St. Louis, Illinois.

NECROLOGY

COOLIDGE JOHNSON BENNETT

Coolidge J. Bennett, mechanical superintendent, Bigelow Hartford Carpet Co., Lowell, Mass., died on February 24, 1920, of pneumonia Mr. Bennett was born on June 9, 1885, in Lowell, Mass. He was educated in the schools of Milltown, N. B., Canada, where his father was mechanical superintendent of the St. Croix Cotton Mills. Later he returned to Lowell and started work for the Hamilton Manufacturing Co., where he received a seven-years' training as machinist.

From 1910 to 1915 he was associated with the following concerns: Slater & Sons' Woolen Mills, Farnumsville, Mass., as master mechanic; Armour & Co., Lowell, as engineer in charge; the Federal Shoe Co., Lowell, as master mechanic; Stone & Webster Co., Canton, Mass., as assistant chief engineer. In 1915 Mr. Bennett became connected with the Bigelow Hartford Carpet Co. as mechanical superintendent.

Mr. Bennett was a member of the National Association of Stationary Engineers and belonged to a number of fraternal organizations. He became an associate-member of the Society in 1919.

FREDERICK LINCOLN EMORY

Frederick L. Emory, professor of mechanics and applied mathematics in the University of West Virginia, died on December 31, 1919. Professor Emory was born in Lunenburg, Mass., on April 9, 1867. He received his common school education there and attended college at Worcester Polytechnic Institute, from which he received his bachelor's degree in mechanical engineering in 1887. For the next two years he was the director of the mechanical and manual training department of the Washington, D. C., high school. During 1890 and 1891 he established and superintended the Trades School in the Massachusetts Reformatory, Concord Junction, Mass.

In the fall of 1891 he was selected by the late Dr. Eli Marsh Turner, then president of the University of West Virginia, to establish and take charge of the new department of mechanical engineering. This he did most successfully, constructing the first mechanical hall on the site now occupied by the University heating plant. From 1892 to 1895 he was engaged in establishing and directing the Industrial Training and Technical High School for the city of Indianapolis, Ind. In the fall of 1895 he entered Cornell University to take postgraduate work and in 1896 received the degree of master of mechanical engineering. He then returned to the University of West Virginia to

become professor of mechanics and applied mathematics. In 1899, Worcester Polytechnic Institute, his alma mater, conferred upon him the degree of master of engineering.

Professor Emory became a member of our Society in 1894. He was also a member of the Society for the Promotion of Engineering Education.

JAMES DOUGLASS MUDGE

James D. Mudge, manager of Mudge-Hoffman & Co., Seattle, Wash., died on February 12, 1920. Mr. Mudge was born in Harpersville, N. Y., on August 9, 1879. He was educated in the Binghamton schools and Cornell University, from which he received his M.E. degree in 1904. He spent a short time with the Buffalo Forge Co. and then left in January, 1906, for the West where, for a time, he worked in the city engineer's office in Seattle, resigning to take charge of the office of the Halliday Machinery Co. in Spokane.

For the past ten years Mr. Mudge was engaged in engineering contracting work in his own interest with offices in Seattle and Vancouver. He designed and installed numerous plants for power generation, pumping, mining, crushing and milling as well as many special mechanical devices.

During the war Mr. Mudge rendered valuable assistance at the University of Washington by instructing in mechanical engineering. After many attempts he was accepted for active service late in 1918.

Mr. Mudge was a member of the Sons of the Revolution. He became an associate-member of the Society in 1919.

HAROLD PRESTON RIX

Harold P. Rix, vice-president and branch manager of the Los Angeles office of the Rix Compressed Air & Drill Co., died on February 11, 1920. Mr. Rix was born in San Francisco, Cal., on August 2, 1888, and was educated in the schools of Redwood City and Palo Alto, Cal. He served a four-year apprenticeship in the Asiatic squadron of the U. S. Navy and at the age of twenty was honorably discharged with the rating of coxswain. For about two years he was connected with the North Star Mines, Grass Valley, Cal., where he worked first as a machine-drill miner and later in the compressor room of the cyanide plant. He then became assistant to the master mechanic of the Nevada Petroleum Co., Coalinga, Cal.

In 1912 he became associated with the Rix Compressed Air & Drill Co., San Francisco, Cal., as salesman; later he was appointed branch manager of the Los Angeles office, where for several years he had charge of the installation of many compressed-air plants for industrial, mining and pumping purposes.

Mr. Rix belonged to several social clubs in Los Angeles. He became an associate of the Society in 1919.

Section Meetings

BALTIMORE:

April 2. Business Meeting.

April 16. Joint Meeting with Baltimore Section, A. I. E. E. Subject: The Super-Power System, by Mr. W. S. Murray, Consulting Engineer, New York City.

BIRMINGHAM:

April 23. Joint Meeting with Atlanta Section, in Birmingham. Dean John R. Allen was the speaker.

CHICAGO:

March 19. Subject: Beauties and Power Development of Niagara Falls, by William M. White.

April 15. Joint Meeting with other Engineering Societies in cooperation with Western Society of Engineers. Subject: Teaching Shop Executives, by Professor B. W. Benedict, of the University of Illinois.

April 19. A. S. M. E. Council Meeting held in afternoon, and Joint Meeting of the Four Founder Societies: A. I. M. E., A. I. E. E., A. S. M. E. and A. S. C. E., and Western Society of Engineers and the local members of other national societies. Banquet preceded by informal reception, and followed by brief addresses from the Presidents of the four Founder Societies.

April 20. Luncheon, at which were present, members of the Board of Directors of the five Societies, and the Executive Committees of the local sections.

CINCINNATI:

April 22. Subject: Theory and Practice, by Dean John R. Allen.

CLEVELAND:

March 23. Subject: Methods of Measuring Flow of Fluids, by E. G. Bailey, President Bailey Meter Co.

April 13. Subject: Is There a Cure for Class Differences in America? by Dr. Ira N. Hollis.

COLORADO:

February 27. Subject: Some Interesting Tests on a High Pressure Automotive Steam Boiler, by E. H. Nate.

April 23. Subject: The Engineer and the Public, by Durbin Van Law.

CONNECTICUT:

HARTFORD BRANCH:

April 12. Subjects: Drop Forgings and Die Castings, by representatives from the Billings and Spencer Co., the J. H. Williams Co., the Veeder Mfg. Co., and the Doehler Die Castings Co.

MERIDEN BRANCH:

April 8. Subject: Boiler Feeding, by Stanley Brown, Griscom-Russel Co., New York. A four-reel motion picture was shown on "The Twist Drill—Its Uses and Abuses."

NEW HAVEN BRANCH:

April 16. Subject: Progress in Mechanical Engineering Research, by Professor Arthur M. Greene, Jr., Chairman of the Research Committee, A. S. M. E.

EASTERN NEW YORK:

March 26. Subject: Gas Warfare in the A. E. F., by Major Frederick Pope.

April 23. Subject: Bearing Metals, by C. H. Bierbaum, Consulting Engineer.

ERIE:

April 12. Subject: Is There a Cure for Class Differences in America? by Dr. Ira N. Hollis.

INDIANAPOLIS:

April 22. Subject: The Manufacture, Properties and Uses of Malleable Castings, by H. A. Schwartz.

MILWAUKEE:

March 17. With Milwaukee Engineering Society. Subject: Falk Gears as Applied to Marine and General Uses, by Percy Day, Manager of the Gear Department of the Falk Co., Milwaukee, Wis.

NEW ORLEANS:

March 17. Business Meeting. Sub-Committee on Membership appointed.

April 17. Business Meeting was held. General discussion of Section Affairs.

NEW YORK:

April 13. Symposium on Welding. Papers were: Elements of Arc Welding, by O. A. Kenyon; Gas Welding, by A. S. Kinsey; and Thermit Welding, by J. H. Deppeler.

PHILADELPHIA:

April 27. Subject: Modern Practice in the Manufacture of Steel, by Col. W. P. Barbara, Philadelphia, Pa.

ST. LOUIS:

April 7. Joint meeting of the Associated Engineering Societies of St. Louis. Subject: Different Processes in the Manufacture of a Heine Boiler, by F. O. Pahlmeyer, Engineer, Heine Safety Boiler Co.

April 30. Subject: Development in Chain Grate Stoker, by H. P. Gauss, Engineer Illinois Stoker Co.

SAN FRANCISCO:

April 1. Meeting of Executive Committee. Subject: Informal talk on Commercial Development of the Aeroplane, by Dr. Durand.

April 8. Subject: Development of the Diesel Engine, by Mr. Tachella. This talk was illustrated by lantern slides.

April 10. Visit to the Municipal Installment of the Diesel Plant of Palo Alto.

WASHINGTON, D. C.:

March 31. Subject: Some Commercial Heat Treatments for Alloy Steels, by A. H. Miller, Bureau of Research, Midvale Steel and Ordnance Co., Philadelphia, Pa. Some Recent Developments in Alloy Steels, by H. J. French, Bureau of Standards; The Application of Alloy Steel to Engineering Work, by P. E. McKenney, Chemist and Metallurgist, Washington Navy Yard.

WASHINGTON STATE:

March 1. Subject: The Relation of the Engineer in Successful Industrial Management, by Stephen I. Miller, College of Business Administration, University of Washington, Seattle, Washington.

April 19. Subject: An Investigation of Compressed Spruce Pulleys, by Prof. G. S. Wilson, Chairman Research Committee.

ONTARIO:

April 8 or 9. Subject: Milling Machine Construction and Design, by an Engineer from Brown & Sharpe.

ROCHESTER:

April 14. Subject: Is There a Cure for Class Differences in America? by Dr. Ira N. Hollis.

TOLEDO:

April 9. Organization Meeting; election of new officers. Subject: America's Future in the World Wide Industry, by Mr. E. S. Carman.

ENGINEERING SOCIETY OF AKRON:

April 15. Meeting held in new rooms. Subject: Manufacture of Wrought-Iron Pipe, by Craig Seddis of the Reading Iron Co.

EMPLOYMENT BULLETIN

THE SECRETARY considers it a special obligation and pleasant duty to make the office of the Society the medium for assisting members to secure positions by putting them in touch with special opportunities for which their training and experience qualify them, and for helping any one desiring engineering services. The applications and positions listed below combine the services of the Society and of the Engineering Societies Employment Bureau, Engineering Societies Building.

POSITIONS AVAILABLE

Stamps should be inclosed for transmittal of applications to advertisers; non-members must accompany applications with a letter of reference or introduction from a member; such reference letter will be filed with the Society's records.

EXPERIENCED LOCOMOTIVE DESIGNERS, DETAILERS, AND TRACERS wanted by firm of locomotive builders. Detailers and tracers without locomotive experience will be considered. Location Pennsylvania. R-2280.

ELECTRICAL FOREMAN for construction department of power company; must be capable of taking entire charge under supervision of electrical superintendent of crew of 5 or 6 men, in connection with rebuilding of 18,000 kw. central-station bus structure and switch board. Technical graduate preferred. Application should contain detail information of technical training, past experience, age, nationality, attitude towards question of organized labor and whether or not applicant is user of intoxicating liquors. Location Ohio. R-2425.

SALES ENGINEERS to open up outside territory for sale of automobile tires after two or three months' training in vicinity of New York City. Some selling experience essential. Man between 30 and 40 years of age desired. R-2459.

MARINE DRAFTSMEN. Location Port Newark, N. J. R-2486.

MECHANICAL DRAFTSMAN for position with Copper-mining company; $200 to $230 per month, including special payment due to high price of copper. Apply in writing, stating full details regarding experience, and give references. Location Arizona. Z-497.

SEVERAL DRAFTSMEN, all grades, familiar with merchant and naval-marine installations. College men with other experience considered. Location Pennsylvania. Z-322.

EXPERIENCED DRAFTSMAN, thoroughly familiar in raw-sugar and refinery work, wanted at once for position in New York. Give full particulars. Z-416.

GENERAL FOREMAN OR OPERATION SUPERVISOR for machine-tool works, manufacturing lathes, screw machines, universal grinders, etc. Must be good mechanic with ingenuity, long experience, and good judgment. Must be competent in trying out highest possible speed of each operation, and in determining highest speed of production that can be maintained safely. Will have charge of set-up, speed setting and progress inspection. Location Massachusetts. Z-417.

MECHANICAL ENGINEERING GRADUATES, Class of 1920, as student engineers in training course of large company. Excellent opportunity for experience in theoretical mechanical engineering. Location Massachusetts. Z-611.

ASSISTANT HIGHWAY ENGINEER, should be able to run out alignment, cross section and figure earth quantities and layout highway bridges. Expenses will be paid from assigned headquarters. Also transportation from New York to Santo Domingo. Must stay at least six months or passage fare will be deducted from salary. Salary to start the day of leaving New York. Z-731.

MECHANICAL ENGINEER to take charge of mechanical-engineering department of foreign subsidiary of American Oil Corporation. Applicant should have at least three years' experience in oil field, with a total of five to ten years' actual practical experience in laying out pipe work, boiler and pumping plants, etc. State experience, references, age, salary expected and whether married or single. Z-792.

RATE SETTER WANTED—New Jersey manufacturer of machine tools wants first-class man thoroughly experienced in setting rates on large and small machine tools or work of similar nature. In addition to necessary trade knowledge, applicant must be possessed of initiative and tact. Please give full particulars as to character of training and experience, age, salary wanted, etc. Z-793.

PRODUCTION MECHANICS of products of metal-turning machines such as automatic screw, Bardon & Oliver lathes, Warner & Swasey lathes, Porter & Cable lathes, etc., at sustained 80 per cent efficiency with an accuracy in all dimensions of .0005 in. Must be between 35 and 45; have served apprenticeship at tool making and worked several years at trade; and then have successful record of at least 5 years' actual responsibility handling men and machines with some commercial producing concern. Must also be above average in tactfulness and ability to handle men. Salary $65-$75 to start; in proportion to results accomplished thereafter. Location vicinity of Philadelphia, Pa. Z-806.

SALESMAN to handle refrigerating machinery. Must have good general engineering knowledge but need know nothing of refrigeration. Salary depending upon qualifications. Location Philadelphia, Pa. Z-808.

ENGINEER to set rates in connection with piece-work on factory maintenance work. Position requires practical knowledge of construction work including carpentry, bricklaying, labor work, painting, steel work, and sheet-metal work. Location Connecticut. Z-811.

ENGINEERS AND DRAFTSMEN trained in various branches of mechanical and structural drafting to work on design and manufacture of Holbeck preparing and distributing pulverized coal system. Company wishes to choose men from among applicants who have had excellent training and reasonable amount of general experience. Location Ohio. Z-824.

TIME-STUDY MAN for making studies on machine and bench operations, the operators being both male and female. Salary to start from $35 to $38 per week with opportunity for advancement. Location New Jersey. Z-825.

PRODUCTION ENGINEER, for company manufacturing furniture. Woodworking experience desirable. Man under 35 years will not be considered. Location Ohio. Z-828.

FOUNDRY SUPERINTENDENT for company manufacturing malleable-iron fittings. Location Detroit, Mich. Z-831.

RESEARCH ENGINEER, 24-27 years old, to understudy engineer now in charge of planning department of wood-working establishment. Mechanical engineering graduate preferred, also one who understands principles of management. Apply by letter. Location New York City. Z-832.

DRAFTSMEN. We are in need of number of first-class draftsmen for laying out detail work on conveying machinery. We want men who can produce and who are looking for good-paying positions as draftsmen. If you are in this class, write us outlining your experience, as this is well worth your consideration. Z-835.

CHIEF DRAFTSMAN OR ASSISTANT ENGINEER to have charge of drafting room for general work of industrial-chemical plant. Location Pennsylvania. Z-841.

FOUNDRY SUPERINTENDENT for foreign service. Must be willing to go to South America and stay there permanently. Z-842.

ASSISTANT MANAGER to look after upkeep of plant and business administration of large research laboratory. Man 28 to 32 years of age, with good engineering and industrial experience desired. Knowledge of economics useful. Must be able to write good letter, and have presence and personality. Location New York City. Z-849.

POWER-PLANT LAYOUT ENGINEER; must be thoroughly experienced in this line of work. (B) GENERAL DRAFTSMAN for manufacturing plant work; man with paper-mill experience desired. Location Canada, 100 miles from Montreal. Z-850 A-B.

SALESMAN for sales-promotion work and supervision of battery service stations in New York, New Jersey and Connecticut. Technical graduate from school in vicinity of New York City preferred, but other will be considered. Good future. Salary $100 per month and traveling expenses. Headquarters in New York City. Z-851.

CHIEF DRAFTSMAN with experience in construction work, architectural lines, and mechanical drafting. Will have staff of draftsmen under him in each of these three lines. Should be an executive so that he can plan work ahead and be able to keep up work for three departments and check the different drawings. He will report directly to the Chief Engineer. Location New York State. Z-862.

ENGINEERS, preferably graduates in mechanical or civil engineering with from one to five years' experience in construction of roofing-material mills, wallboard mills, or paper mills; capable of going to plant and making survey, sketching desired information; able to complete designs and specifications for additional improvements; capable of interviewing and getting line on local contractors, so that work may be let out to them; able to act in capacity of instructor in construction. Ideal man would be drafting engineer. Location New York State. Z-863.

INDUSTRIAL-POWER SALESMEN AND INDUSTRIAL-HEATING ENGINEER; capable of assuming direct charge of district in city of St. Louis, conducting all negotiations incident to sale of power in large blocks to new industries and conversion to central-station energy of any isolated plants, now in existence. Able to handle such negotiations with minimum of supervision; should be graduate electrical engineers. Those having sales experience in industrial-power work preferred. Location Missouri. New York interview possible. Z-864.

ENGINEER; must have general mechanical maintenance experience, drafting ability, and all-round engineering knowledge enabling him to eventually act as assistant chief engineer. Preferably an adaptable man of about 28-30 years who is worth $150 per month and upwards; salary to be determined. Location New York State. Z-865.

FOREMAN for testing department for magnetos and magneto generators. Department has 25-30 men. Location Brooklyn, N. Y. Z-871.

DESIGNING ENGINEER familiar with coal breakers, tipples, etc. May qualify later for field work as superintendent. Good future. Location New York City. Z-874.

INSTRUCTOR IN MECHANICAL LABORATORY; young college graduate in mechanical engineering, with one or two years of commercial experience preferably in experimental work. Man about 25 really desirous to get into teaching game desired. If right kind of personality and push there is excellent opportunity for advancement, to very responsible position. Salary $2000 per year of ten months. Location Brooklyn, New York. Z-880.

CHIEF INSPECTOR; high grade man of engineering qualifications and experience who will

assume charge of all inspection at the three plants of company manufacturing typewriters. Will also have charge of metallurgical department. Location New York State. Z-884.

MECHANICAL ENGINEER with forceful personality and thorough practical and theoretical knowledge covering steam power, mechanical drives, steel and concrete construction to take charge of design and construction of large, new paper-mill proposition. Paper-mill experience not necessary. Will work under engineer 1000 miles away, and in all paper technical matters will follow paper expert direction. In first letter give full information. Salary about $5000. Z-885.

YOUNG MECHANICAL ENGINEER, of about 4 years' experience along general lines of manufacturing production. Must be of good personality and of quick intelligence to meet clients and assist them, in working out various phases of manufacturing problems. Salary would be $150 a month and expenses while away from main office. Headquarters New York City. Z-886.

CHIEF INSPECTOR; graduate engineer with several years of practical experience in machine-shop, foundry and forge work. Man with time-study experience so that he can assume charge of setting of standards preferred. Main job will consist of reorganizing inspection department, and putting it on proper basis. Z-887.

YOUNG ENGINEER with experience in installing production systems, to help on similar work. In addition to bicycles and sewing machines, several new lines of product will be introduced, possibly along electrical lines. Location Ohio. Z-888.

COST ACCOUNTANT for manufacturing concern making sewing machines, bicycles and forgings. Location Ohio. Z-889.

SALES REPRESENTATIVE preferably with technical training, although this is not absolutely essential; between ages of 28 and 38; company can put out in territory with full knowledge that he is working for company's interests alone, devoting entire energy towards pushing of sale of machine tools. Should have knowledge of machinery to be prepared to assist prospective customer in adjustment of old machines of company's manufacture that he might have in his plant and in order to talk intelligently to his prospective customer. Z-895.

RATE SETTER for lathe, planer and milling-machine work. Location Connecticut. Z-900.

LUBRICATION ENGINEER for the Philippines; must be able to speak Spanish fluently and must be experienced as there is not time for instruction. Salary $3000 and traveling expenses. Location Philippines. Z-901.

RADIO DRAFTSMAN with at least two years' experience. Some experience in radio desirable. Location New York City. Z-915.

DEVELOPMENT WORK of tungsten products pertaining to manufacturing of filament for incandescent lamps. Recent graduate or undergraduate could qualify. Location Bloomfield, N. J. Z-919.

MECHANICAL ENGINEER to act as trouble finder for lithographic company and able to repair troubles when found. Location New York City. Z-922.

MECHANICAL ENGINEER to erect and operate food-products plant, similar to glucose-manufacturing plant. Location east of Chicago. Z-923.

CHIEF INSPECTOR with ability to properly read mechanical blue prints, to be thoroughly familiar with all types of machinery ordinarily found in manufacturing plant and must also have executive ability. Company manufactures wide range of equipment including hand-cutting and welding apparatus and much machine apparatus for same purpose, but electrically driven. These necessitate great accuracy and precision in assembly. Location Jersey City, N. J. Z-927.

SALES ENGINEER with commercial experience. Must have commercial rather than engineering viewpoint. Young man ambitious, enthusiastic, steady and stable, unquestionably loyal, a good letter writer, having good conception of what is needed to write advertisements for engineering products. Location New York City. Z-932.

LARGE MANUFACTURING COMPANY has opening for man experienced in design of special machinery used in manufacture of sheet-metal work. Requires man of tact to cooperate to fullest extent with plant superintendents and with various other departments. Location Pennsylvania. Z-943.

MECHANICAL ENGINEER, young, 23 to 33, as assistant to factory superintendent of company manufacturing cash registers, small recorders, etc. Must be graduate engineer, have native executive ability and possess caliber for advancement to managing position. Machine-shop and tooling experience required. (B) ASSISTANT WORKS MANAGER for company manufacturing cash registers, small recorders, etc. Must be able executive and have practical experience in all departments including production and tooling. Good opportunity. Location Chicago. Z-947-A-B.

SUPERINTENDENT for large laundry plant in New York State. Must know technical end of laundering in addition to laundry machinery. Must have at least 3 years' experience in similar position. Best of references required. Location New York State. Z-949.

TEACHER for mechanical and machine drawing department qualified to do chief work required of teacher in that department, mechanical drawing and design; would be required to take charge of four advanced classes and do approximately 26 periods of teaching per week; necessary for him to have had some teaching experience, some drafting-room experience, the right educational preparation, preferably an engineering school or normal art school diploma. Location Massachusetts. Z-951.

ASSISTANT EDITOR; engineer familiar with gas engines and if possible some garage or automobile work. College graduate with one or two years' experience preferred. Services not required until first or middle part of June. Excellent opportunity for advancement. Z-953.

ELECTRICAL DRAFTSMAN to act as designer and squad leader. Must be experienced in layout and design of generating stations and substations. Location New York City. Opportunity for advancement. Appointment must be made by letter stating salary expected and experience. Location New York City. Z-955.

SENIOR PROFESSOR OF MECHANICAL DRAWING (B) SENIOR PROFESSOR OF MECHANICS, desirable that he have practical and commercial experience. (C) ASSISTANT PROFESSOR IN ELECTRICAL ENGINEERING. Location South. Z-956.

THREE ENGINEERS, preferably with technical education and at least five years' experience in design high-pressure hydraulic and gas machinery and high-pressure piping. Experience in practical machine-shop design desirable. Salary is two to three thousand dollars. Location Washington, D. C. Z-957.

DRAFTSMAN experienced in laying out of conveying machinery and relocation of machinery, boilers, etc. Location West Virginia. Z-958.

PRODUCTION SUPERINTENDENT experienced in cabinet making to systemize and reorganize present plant manufacturing phonograph cabinets. Location Youngstown, Ohio. Z-960.

INSTRUCTORS, 1,000 men for army vocational schools. Mechanical and other subjects such as auto-repair, moving-picture operation, machine-shop practice, bookkeeping, etc. Civil Service entrance examinations. Location Army camps and posts. Z-961.

YOUNG MECHANICAL ENGINEER for production work. Must be technical graduate and be familiar with shop processes. Location New York City. Z-962-A.

ADVERTISING ENGINEER for agency. Must have proven sales ability and be producer of high-grade technical copy along mechanical lines. Commission basis at start with partnership to right man in the near future. Location New York City. Z-963.

RECENT GRADUATE, chemical engineer, for exporting work. Location New York City and then Japan. Z-964.

SUPERINTENDENT experienced in veneer manufacturing or woodworking. Must also understand modern methods of manufacture and management. Good future. Location Virginia. Z-969.

YOUNG ENGINEER to go to Columbia for surveying. Recent graduate. Must know how to run transit. One year contract. Location South America. Z-973.

MECHANICAL ENGINEER experienced in burning of especially the Mexican type of fuel oils. Should be able to design oil burner for use in connection with cast-iron sectional house-heating boilers. Only experienced men need apply. Z-978.

CHIEF MECHANICAL AND CONSTRUCTION ENGINEER for position at mines in Mexico being operated by large American Company. Must be graduate of high-grade technical school and be well equipped through training and experience for maintaining existing equipment and designing and installing new equipment and improvements in mines and concentrating and cyanide mills and have good knowledge of shop practice. Must be energetic and able to coöperate with associates. Good opportunity for properly equipped man. Knowledge of Spanish desirable though not necessary. Z-982.

ASSISTANT TO CHIEF DESIGNER. Must be graduate chemical or mechanical engineer with 2 years' practical experience. Air conditioning and drying-oven experience desirable. Location Providence, R. I. Z-1008.

INSTRUCTOR to teach elementary mathematics and mechanical drawing in apprenticeship school. Candidates should have some technical training and shop experience and should understand handling of young men. Offers excellent opportunities for advancement in works through one of its many departments. Location Connecticut. Z-1012.

MECHANICAL ENGINEER to take charge of machinery for treatment of asbestos fibre. Must be thoroughly proficient mechanical engineer, with good knowledge of electrical power. Must also be good executive. Location New York City. Z-1015.

CONSULTING ENGINEER experienced in production of chilled car wheels. Foundry experience on chilled wheels essential. Z-984.

MECHANICAL ENGINEER with experience in manufacturing of coiled springs. Location Chicago, Ill. Z-1004.

TOOL DESIGNER on small tools; also number of tracers. Location Hoboken, New Jersey. Z-1016.

DRAFTSMAN and office engineer for mining company. Z-1017.

RAILROAD ACCOUNTANT, to assist in large railroad investigation; must have experience in railroad engineering operations as well as in accounts. State age, nationality, salary expected. Z-1018.

DESIGNING AND OPERATING ENGINEER for industrial gas plants. Must possess executive ability and be capable of heading department. Reply in detail. Location New Jersey. Z-1019.

LARGE MANUFACTURING COMPANY in Indiana, employing about 7,000 employees, are looking for man to take charge of internal house organ, having circulation among their employees. This man must have had some similar previous experience including editorial writing. This is forty-page monthly. Will have an associated staff of about 20 other people in various parts of organization to help him and 2 or 3 people directly under him in his department. Would like some one who has been associated with manufacturing company so he would understand atmosphere of

such a plant. Salary in the neighborhood of $2,500 to $3,000 per year to start. Permanent position with excellent opportunity for advancement. Z-1020.

MECHANICAL ENGINEER, with at least 10 years' experience in design and construction of steam-power plants; must have thorough knowledge of thermodynamical calculations entering into steam-plant design and preferably some experience in operation of steam-power plants. Work will be along special lines of heat and efficiency calculations. Location Philadelphia. Z-1022.

CONSTRUCTING ENGINEER, experienced in drying machinery for sugar, coffee, grain, flour, etc., preferred. Permanent position for right man. Z-1022.

DESIGNING ENGINEER. If you are equipped to take hold of an established line of pressure-reducing valves and push them to perfection, you have an opportunity before you. Answer clearly and fully on following points: (1) Have you basic knowledge of designing and actual experience? Absolutely essential. (2) Can you design special valves such as relief, globe, check—reducing valves for high pressures? Any experience? (3) As designer and production engineer, could you take active charge of mechanical end and maintain maximum production? Any experience? (4) Give age, experience full, references and salary expected. Strictly confidential. Will not write references without your consent. The business is established, located in the Middle West. A good-paying proposition with bright future. Write immediately. Z-1023.

EDITOR with engineering education and experience sufficient to enable him to prepare the definition section of book, in which terms used in connection with material-handling apparatus, accessories, and methods are defined. He should also have had experience in writing technical articles, although if otherwise capable we will not insist on this qualification. Z-1024.

ENGINEERING SALESMEN, young, unmarried, with military service, to travel in different sections of United States selling electric refrigerating machinery to hotels, architects, butchers, florists, clubs, households, etc. Remuneration: salary and commissions on closed territory, plus all necessary expenses. Opening for about twenty men and there is ample opportunity for them to grow. Z-1025.

GRADUATE ENGINEER wanted, in September, to teach mechanics and assist in testing laboratory; teaching experience preferred but not essential. Box 483, State College, Penn. Z-1026.

INDUSTRIAL ENGINEERS, large firm of industrial engineers is constantly on lookout for qualified high-grade men. Technical education desirable but not essential. Must have successful executive manufacturing record and must be experienced in factory organization, management, production control, incentives, manufacturing methods and processes, stores control, employment and personnel work and have some knowledge of cost accounting. Should have practical knowledge of operation of machine tools, metal or woodworking or both. Men who have had experience as general managers, works managers, factory managers, superintendents, production managers, etc., are type desired. Applicants would be located in different localities for several months at a time. Salary commensurate with worth. Z-1027.

INSTRUCTOR in mechanical engineering; to teach mechanical drawing, descriptive geometry, kinematics and thermodynamics. Teaching experience desired but not necessary. Man with two or three years' practical experience preferred. State all qualifications in first letter. Location District of Columbia. Z-1028.

MACHINE DESIGNER of high-grade experience, with originality and initiative, qualified to design and superintend construction of special machinery for large industrial plant. Location Southern Ohio. Z-1029.

MAN to install and conduct Laboratory for concern in central Ohio making electrical motors. Work to cover chemical and physical as well as electrical and possibly microphotographic tests on material. Applicants must be familiar with this line of work and should be experienced in general inspection of all classes of raw purchased material. Some knowledge of foundry practice is desirable as the Laboratory will control the cupola mix for grey-iron foundry. Z-1030.

MECHANICAL AND CIVIL DRAFTSMEN wanted. Graduate engineers with experience in steel mills or similar plants preferred. Should be capable of carrying out plant designs and details completely. Location Eastern Pennsylvania. Z-1031.

MECHANICAL DRAFTSMEN wanted by concern located in Middle West, experienced in internal-combustion engines, also general layout and design. Applicants should state in detail, experience, education, reference and salary expected. Z-1032.

MECHANICAL ENGINEER familiar with design, construction and operation of power plant to supervise reconstruction work. Technical man with above experience preferred. Position with chemical manufacturing company. Z-1033.

MECHANICAL ENGINEER to take charge of drawing room. Manufacture, coke drawing and loading machines and heavy punches, shears, bending rolls and plate planers, etc. Z-1034.

MECHANICAL ENGINEER to teach kinematics, machine design, power plants and engineering problems. Location Pennsylvania. Z-1035.

NEW ENGLAND firm manufacturing machine tools, desires services of several rate setters and estimators possessing tact and initiative. Apply by letter stating experience in detail and salary expected. Z-1036.

UNIVERSITY in the Middle West desires man next September to take charge of foundry, conduct classes in advanced metallurgy, particularly as applied to the foundry, and develop work in metallography. Salary and rank will depend upon qualifications of successful applicant. Technical school graduate preferred. Excellent opportunity offered for development of subject of metallography as related to manufacturing operations of casting, heat treatment and the cold working of metals. Z-1037.

ENGINEER to handle correspondence courses in electrical meters and in steam-electric power stations. Practical operating experience essential; teaching experience not required. Part time work in New York City. Z-1038.

DRAFTSMAN, experienced in laying out pipe work and insulation work, etc., for refrigerating machinery. Knowledge of isometric drawing required. Location New York City. Z-1039.

TECHNICAL GRADUATE, experience and thorough knowledge of refrigeration essential. To make sketches in field and supervise laying out of job to suit sketches, also general office engineering work. Good opportunity with progressive concern. Location New York City. Z-1040.

PRESS-ROOM AND TOOL-ROOM FOREMAN. Shop making medium and small stampings in both light and heavy-gauge steel. Increasing shop capacity and offer good opportunity for two first-class men. Location Middle West. Z-1041.

LARGE MOTOR-CAR COMPANY contemplating considerable plant extensions desires to get in touch with men of ability, initiative, loyalty and good personality for operation of this additional plant. Mechanical-engineering graduates preferred, with manufacturing experience. At present these men will be expected to enter our organization and take up certain phases of problems preliminary to erection of new buildings. Age 30 to 50 years. Salary $4,000 to $10,000. Only complete replies considered. Location Syracuse, New York. Z-1042.

RECENT MECHANICAL ENGINEERING GRADUATES for student salesman and engineering courses of large pump and allied machinery manufacturers. Location New Jersey. Z-1043.

MECHANICAL DRAFTSMEN, familiar with power presses used in automobile sheet-metal work, also with hoisting equipment such as winches and cranes, and their application to trucks and small carriages. Steady employment. Good salary. Location Michigan. Z-1044.

MECHANICAL ENGINEER; must have experience in designing and selling hoisting and elevating electric and hydraulic machinery and apparatus, as well as in general jobbing work of large foundry and machine shop. Man under forty with technical education preferred. Give full details as to past and present employment, education, salary wanted, age, married or single and date services available. Answers treated confidentially. Z-1045.

COST MAN; must have considerable experience in manufacture of jewelry and silverware, their component of modern factory cost accounting. Will have charge of cost department under executive supervision and will take care of buying of factory supplies and parts. Apply in writing giving complete business history with dates, names and references, family, education and religion. Location Rhode Island. Z-1048.

DRAFTSMAN, heavy machine-tool industry with large volume of business on special designed machines, has openings in engineering department for designers, draftsman and detail men. Exceptionally good opportunity for men who can qualify for these positions. In reply give experience and present employer. Applications strictly confidential. Address Employment Department, the Niles Tool Works Company, Hamilton, Ohio. Z-1049.

SALES ENGINEER, to take charge of New York office. Must know New York territory and be familiar with combustion engineering. (B) Also sales engineer with similar experience of Ohio territory. Company, manufacturers of stokers. Z-1050-A-B.

ASSISTANT PROFESSOR OF MECHANICAL ENGINEERING to teach machine design, power-plant design and thermodynamics. Must have had practical experience in engineering design and teaching experience in these subjects. Location New York City. Z-1051.

INSTRUCTOR IN MECHANICAL ENGINEERING to teach thermodynamics, mechanical drawing and descriptive geometry. Must have experience along mechanical-engineering lines and one year's teaching experience. Location New York City. Z-1052.

INSTRUCTOR IN MECHANICAL ENGINEERING to teach descriptive geometry, mechanical and master drawing and perhaps mechanism. Practical and teaching experience desirable and will be considered in fixing salary but are not essential. Location New York City. Z-1053.

MEN AVAILABLE

Only members of the Society are listed in the published notices of this section. Copy for notices should be on hand by the 12th of the month preceding date of issue and should be limited to 45 words. The form of notice should be such that the initial words indicate the classification. Notices are not repeated in consecutive issues.

CONSTRUCTION ENGINEER; technical graduate; age 40; married. Experienced in plant design and all classes of construction. Specialist on crushing plants and metallurgical reduction works; have been in responsible charge of the design, purchase of equipment, and construction of this class of work for 10 years. Salary $7,200. Available June 1. References. SM-5211.

ASSISTANT EXECUTIVE, for adding machine or typewriter factory. Age 26, technical graduate with inventive mind. All-around shop man; 3 years' designing and experimenting on new adding machine now ready for marketing. Successfully handled production and

labor problems. Has initiative to handle big things if given the authority. SM-5212.

MECHANICAL ENGINEER; at present professor mechanical engineering; available June 1 to Sept. 15, permanent position would be considered. Experienced in maintenance engineering, power-plant operation and design, machine and internal-combustion engine design; exceptional ability as test engineer. Age 30. Salary dependent on location. SM-5213.

ASSISTANT TO WORKS MANAGER, production or industrial engineer; American; 15 years' shop and office experience. Have had charge of tool design and planning department at large plant during war; put work through from start to finish. Wish to locate with live concern where initiative is required and advancement possible. Salary $3,700 to $4,000. SM-5214.

CHIEF DRAFTSMAN; at present employed; technical education; ten years' experience, design of tools, jigs, fixtures, mechanical research, development of labor-saving devices, inventive ability; experience as assistant production manager, traveling interviewing manufacturers; would prefer position as assistant to manager or superintendent. Salary $3,000-$3,500. Position should be in immediate vicinity of Boston. SM-5215.

CHIEF DRAFTSMAN, young man with ability and initiative, seven years' varied experience including responsible charge upon design of jigs, fixtures, dies and gage; small brass articles, instruments and light automatic machinery. Possess sound mechanical ideas on factory arrangements. Desires change where opportunity will lead to greater authority. Location preferably Greater New York or vicinity. SM-5216.

CHIEF DRAFTSMAN OR ASSISTANT ENGINEER. Technical graduate in mechanical and civil engineering. Age 31, married. Eight years' experience as detailer, layout, checker, chief draftsman and mechanical engineer, Power plants and units, electric locomotives, electric traveling cranes, airplane equipment and instruments of precision. Not production or industrial expert but high-grade mechanical engineer qualified to supervise designing and drafting departments. SM-5217.

CHIEF ENGINEER, 37, desires similar or executive position with tractor company. Eleven years' experience in design and construction of heavy-duty internal-combustion engines, transmissions and tractors. Minimum salary $6,000. SM-5218.

DESIGNER AND MECHANICAL ENGINEER; age 30, college graduate, broad experience on machine and tool designing, processing of interchangeable machinery and setting of manufacturing limits. Ten years' experience; last four in executive capacity as chief draftsman and chief gage designer. SM-5219.

DESIGNING OR MANAGING ENGINEER; technical graduate, 16 years' shop and drafting experience on quantity production of interchangeable parts; designer of special automatic machinery, labor-saving devices, intricate fixtures and dies for increased production; familiar with machine tools, metal stampings, steel wire, tin plate, wood and paper-working machinery. Ability and initiative to organize, qualified to take charge of designing force, superintend production or develop new proposition along modern lines. Salary $3,600 per year. Location Brooklyn, New York, preferred. SM-5220.

EDUCATIONAL DIRECTOR, associate member with five years' practical shop experience; two years' college study, seven years' experience in training apprentices, college students, men and women, for industrial work. SM-5221.

EFFICIENCY, COMBUSTION OR STEAM ENGINEER, Cornell graduate, age 29; three years' research experience with steam turbines and centrifugal machinery, three and one-half years in testing, combustion problems and steam engineering. Desires position with growing concern and wishes to locate in Eastern Pennsylvania. SM-5222.

EMPLOYMENT DIRECTOR OR INDUSTRIAL SALES MANAGER; capable of installing and maintaining various features of personnel work. Can organize shop-committee systems, profit-sharing plans, foremen's training work, incentives for production; as well as handle other personnel problems. Now director of employment and service department but desires to get into larger field. Best references from leading engineers in Society. SM-5223.

ENGINEER of twenty-five years' experience, technical graduate (M.E., Sc.D.), who has been teaching during past ten years, desires to return to commercial field. Broad experience along lines of power-plant and machine design. Ability to take responsible charge of high-grade work. SM-5224.

ENGINEER, technically trained, by experience and aptitude capable of developing mechanical apparatus, go out on floor and study routing, processing and devise improved means for increasing production. Married. Age 33, 14 years' machine-shop and designing experience. Can handle engineering department. SM-5225.

ENGINEERING TEACHER, M.E., M.S., Ph.D., Assoc. Mem. A.S.M.E., having specialized in applied mathematics, mechanics and thermodynamics, 33 years of age, at present assistant professor in thermodynamics, desires position as associate professor of mechanics; salary minimum $3,000. SM-5226.

EXECUTIVE ENGINEER; mechanical engineer with 10 years' experience in industrial and machine manufacturing, would like executive position with live concern as head of manufacturing or production. Have held positions of foreman, superintendent, production manager, and industrial engineer. Familiar with modern industrial engineering methods. Employed but desire change offering larger opportunities. Travelling position will not be considered. SM-5227.

GENERAL MANAGER, consulting mechanical engineer with broad business and manufacturing experience wishes to devote entire time to bringing some concern which has been mismanaged up to first-class paying condition or to coördinating and expanding various properties controlled by same interests. SM-5228.

GRADUATE ENGINEER, in charge of work in Homer oil field since the beginning; four years in South America. Speaks Spanish. Will go anywhere. Address Box 620, Homer, Louisiana. SM-5229.

GRADUATE MECHANICAL ENGINEER, age 25; single; junior member. At present salesman with large manufacturing company. Desires position with progressive concern offering good future in production or executive lines. Salary to suit responsibilities. Middle Western or Western location preferred. SM-5230.

INDUSTRIAL ENGINEER; graduate mechanical engineer, associate member, age 38, married. Six years' experience in installation and operation of systems of handling production, bonus systems and related work, time study, setting standards, investigations, research, and complete supervision of efficiency and production departments. Practical expert in machine-tool, sheet-steel and allied lines of manufacture. Immediately available. Salary minimum $3,800. SM-5231.

INDUSTRIAL OR SALES REPRESENTATIVE for England, France, Switzerland and Italy. Graduate engineer, age 26, leaving for these countries first week in June. Experience in oil-refining operation and design, also in automotive industries. Desires to represent these or kindred industries. SM-5232.

MANUFACTURING EXECUTIVE, trained along plant management lines. Technically educated. Twenty years' experience in successful administration of foundry pattern, machine and drop-forge shops manufacturing interchangeable parts in quantities. Broad minded, diplomatic in securing coöperation in all departments. Seeks connection with company that requires experience and hard work to get results. SM-5233.

MARINE ENGINEER, now manager well-known boiler appliance firm, wishes position eliminating travelling. Holds chief's unlimited ocean license (second issue), served two years Emergency Fleet, chief inspector machinery, etc. Member A.S.M.E. and S.N.A.M.E., Associate Society Naval Engineers. American; 34 years old; present salary $5,000 and bonus. SM-5234.

MARINE ENGINEER, specializing in Diesel engines, desires executive position with steamship company using oil engines, or oil-engine manufacturer interested in marine field. Age 35, married. Mechanical and electrical graduate from leading university; 13 years' experience in marine engineering, past seven years devoted to oil engines, covering design, installation, tests and sales. Employed by large manufacturer but wishes opening with better opportunity for exercise of initiative. SM-5235.

MECHANICAL AND ELECTRICAL ENGINEER; technical graduate; thoroughly experienced in steam power-plant and distribution system, design and construction. Desires permanent position and one of responsibility; public utility or engineering firm preferred. Age 28, married; minimum salary $3,300. SM-5236.

MECHANICAL AND LEGAL TRAINING, experienced in design, experiment and manufacture, desires position in business where legal training is desirable supplement to technical training. Familiar with patent and other law relating to engineering. Young. Future important. Salary $2,600. SM-5237.

MECHANICAL ENGINEER, age 37, married, master mechanical degree Cornell, 1905. 1½ years as inspector of installation and charge of testing producer-gas engine equipment; 2½ years instructor in steam engineering, 4 years in charge of power plant for large steel company, 7 years in present position in charge of power department of industrial company having 15 plants. SM-5238.

MECHANICAL ENGINEER; American, technical graduate; age 31; married. Nine years' experience in steel mills making tests and reports on present installations and new equipment as well as designing and operating boiler, power and producer plants; heating furnaces and steam, power, water and gas distribution systems. Experience in combustion work with various fuels. Desires position with manufacturing firm or consulting engineer. Location preferred, Ohio, Pennsylvania or New Jersey. SM-5239.

MECHANICAL ENGINEER, at present with large pulp and paper company, wishes to make a change. Four years' experience in general plant engineering, maintenance and construction; heating and ventilating. Special experimental work on internal-combustion engines, etc. Technical graduate in mechanical engineering. SM-5240.

MECHANICAL ENGINEER, graduate of M.I.T., age 26, married, extensive experience in power-plant design and operation, steam distribution and metering, and plant maintenance. Executive, with ability to produce. Experience in mills and industrial plants. Wishes to locate in East with progressive company. Minimum salary considered $250 month. SM-5241.

MECHANICAL ENGINEER, M.I.T. graduate, age 28, single, now employed. Two years' textile mill engineering and plant supervision, two years' administrative duties as Army ordnance officer, one year refrigeration work, desires man-size connection as assistant to business or manufacturing executive, or real opening with consulting-sales organization. Location minor consideration. SM-5242.

MECHANICAL ENGINEER, technical education, 31 years old. Experienced in testing, operation, development and design. Assoc. Mem. A.S.M.E. and A.I.E.E. Knowledge of organization and management. For last two years and at present employed by large electrical manufacturing concern. Desires position leading to executive responsibilities. Location New York. Salary $4,000. SM-5243.

MECHANICAL ENGINEER; technical graduate with seven years experience in power-station construction and operation, thoroughly familiar with all combustion problems. Desires position with future, with strong engi-

neering company. Salary $3,600 per year. SM-5244.

MECHANICAL ENGINEER; technical graduate; 20 years' broad experience, as estimating engineer, chief engineer, master mechanic, superintendent of plant and sales engineer, in design, construction and operation of light, heavy and automatic machinery, design, construction, operation, and maintenance of industrial and power plants complete, and sale of power-plant apparatus and mechanical equipment. Present employed in executive engineering position. SM-5245.

MECHANICAL ENGINEER, technical graduate. Experienced in erecting and testing centrifugal pumps, condensers, etc. Now selling above line. Young man but considered expert on condensing and pumping equipment. Desires position New York or vicinity in sales, purchasing or engineering with domestic or export company needing engineer with above qualifications. Minimum salary $3,300. SM-5246.

MECHANICAL ENGINEER, 25 years' experience in design, manufacture and processing of highest class work, open for engagement. Experienced in handling men. Student of factory organization and management. At present holding position of chief mechanical engineer. Will consider similar or any good executive position, or consulting engineer. Salary according to responsibilities. SM-5247.

MECHANICAL ENGINEER; technical graduate, 17 years' experience in design, installation, remodeling and operation of steam-power plants and oil-pipe line work. Wide experience in use of crude oil as boiler fuel. Prefer location in West, Southwest or Orient. SM-5248.

MECHANICAL ENGINEER, leaving for Sweden early in July, will undertake any mission of an engineering nature in Scandinavian countries. SM-5249.

MECHANICAL ENGINEER AND EXECUTIVE; age 31, technical education and training; five years' production engineering experience, two years' research engineering; capable of taking processes in experimental stages and putting them on production basis, desires position as plant engineer, preferably in New York or Boston or vicinity. SM-5250.

MECHANICAL ENGINEER, plant engineer in charge of design and manufacture of machine tools, special machinery, jigs, dies and tools, design, repair and maintenance of buildings, grounds, machinery, electrical equipment, power plant, machine-shop tool room and plant layout. SM-5251.

MECHANICAL OR PLANT ENGINEER; age 31, technical education; 15 years' practical experience, including pattern, foundry and machine shops, reorganization, construction, equipment, operation and maintenance industrial and power plants. Valuation work, planning and estimating. Employed and married. Location immaterial. Salary $4,000. SM-5252.

MECHANICAL ENGINEER OR TECHNICAL SUPERINTENDENT, American, age 27, technical graduate, present location assistant engineer for large steel and wire company, desires connection with progressive firm requiring wide-awake young engineer. Congenial and good personality. Five years' experience with power-plant and heat-treating furnaces, including design, testing and operation. Minimum salary $3,000 to start. SM-5253.

MECHANICAL OR WORKS ENGINEER OR CHIEF ENGINEER, age 35, technical education; 15 years' experience, designing, manufacturing, plant maintenance and selling to metal-manufacturing industries. Present position works manager and chief engineer for large automobile company. Location immaterial. SM-5254.

MECHANICAL ENGINEER with special training would like to secure position with consulting engineer, or assistant to mechanical engineer in industrial steam-power plant. Technical graduate, 1915. Age 27, married. Prefer central or western New York State. Salary desired, $2,400. SM-5255.

MECHANICAL ENGINEER would like to represent machinery manufacturers, in Cuba. Have had many years' experience in sugar-machinery line, design, erecting, operating and selling and have a wide acquaintance through the island and Mexico. Am graduate engineer at present engaged. Answer to Sr. Ingeniero del 37—Prado 3, Havana, Cuba. SM-5256.

MECHANICAL-ENGINEERING STUDENT desires position in manufacturing plant where familiarity with machine tools and methods can be acquired. In return for this training and remuneration to cover expenses, the applicant offers his service in whatever capacity a four-year college training has qualified him. Location no consideration. Available June 1. SM-5257.

MECHANICAL ENGINEER OR SUPERINTENDENT OF CONSTRUCTION, power or works. American, 38 years old. Fifteen years' first-class experience with satisfactory references. SM-5258.

MECHANICAL ENGINEER with manufacturing and purchasing experience. Cornell man, married, junior member, age 26; one year in shops, year as draftsman, year as assistant superintendent; four and half years' purchasing and shipping machinery and manufacturing supplies for export, now employed, wants position with good future. SM-5259.

OIL-REFINERY ENGINEER acting as assistant to general manager of a 20,000-bbl. refinery with experience in design, construction and operation of all equipment used. Assoc. Mem. A.S.M.E., Graduate electrical engineer. Age 31, married. Desires similar position with organization affording opportunity for advancement upon proving desirable personal qualities and ability to handle large affairs. SM-5260.

PLANT ENGINEER and mechanical superintendent; technically educated; has had more than ten years' experience in engineering and maintenance of industrial plants and been with power companies and consulting engineers. Permanent connection near New York City desired. SM-5261.

POWER-PLANT SPECIALIST; ten years' experience in power-plant construction and operation. Technical graduate. Age 32. Married. Wishes to secure position in power-plant design work or similar lines. Salary $250-$300. Location preferred, Chicago. SM-5262.

WANTED, an opportunity to prove a valuable assistant to busy executive or plant manager. Graduate mechanical engineer possessing tact, initiative, executive ability and broad engineering and business training is immediately available. SM-5263.

SALES MANAGER ENGINEER; 15 years' management sales mining and milling machinery, machine tools, contractors' equipment, power, paper and industrial-plant equipment, air-lift pumping, steam, electric and oil-power apparatus, and every kind of machinery used in metal-mining country and in the usual industries. Has unusually broad experience covering every side of sales-engineering. Now located San Francisco. Familiar with entire territory west of Rocky Mountains. Will consider acting as manufacturers' agent. SM-5264.

STEAM ENGINEER, non-professional, age 43; 22 years' experience; 16 years in charge of steam plants up to 6,000 hp. First-class Massachusetts license; at present employed. New England or New York State location preferred, but will consider others. SM-5265.

WORKS OR PRODUCTION ENGINEER; age 34; Cornell M.E.; practical machinist before going to college; seven years' diversified experience in tool design, inspection, design and improvement of special machinery with view of reducing cost of manufacture, establishing proper manufacturing tolerance on interchangeable work, increasing production through selecting proper tools,, feeds and speeds; standardization. References furnished. Salary $3,000. SM-5266.

WORKS SUPERINTENDENT; industrial engineer, experienced in machine-shop and allied trades on high-grade interchangeable semi-production work. Age 45, good record, stable, now employed, desires change. Broad experience in handling skilled labor; shop processes, materials, equipment and tools, organization, production control. SM-5267.

YOUNG ENGINEER, age 26, technical graduate in M.E.; three and a half years' experience in power-plant layout and plant efficiency, desirous of entering broader field. Single and willing to go anywhere. SM-5268.

SUPERINTENDENT OF CONSTRUCTION, PLANT ENGINEER OR MANUFACTURING EXECUTIVE. Fifteen years' experience. At present in charge of all construction and maintenance for large manufacturing corporation. Used to large responsibilities along these and similar lines, also shipyard management and vessel construction. SM-5269.

MECHANICAL ENGINEER, technical graduate; age 28; desires to locate with concern in New York or vicinity in position with future. Ex-service man with rank of Major. Experienced in handling an organization employing 500 men with machine shop, store house, etc. At present employed. SM-5270.

MECHANICAL-MARINE ENGINEER; executive ability; age 38; university and M.I.T. graduate; experience as engineer and manager in power-plant, industrial and marine work. Permanent connection desired with manufacturing or commercial organization. SM-5271.

ASSISTANT ENGINEER, technical graduate in mechanical engineering, age 26, single, with three years' experience in latest motor design. Also experienced in design and manufacture of special automatic machinery, jigs, fixtures, plant layouts, and special appliances for automobile motor-test rooms. Desires position as assistant engineer in automotive industry. Preferred location, Middle West. Available on 30 days' notice. SM-5272.

GRADUATE MECHANICAL ENGINEER, 27; single; having several years' varied heavy-machine-design construction and installation experience, desires opportunity to develop machine-shop practice and apply training. SM-5273.

MECHANICAL ENGINEER recently released from war duties with twelve years' experience as executive in design and manufacture of high-grade machinery such as is used in large power plants, would like to make connection with some first-class concern. Applicant is accustomed to modern scientific management, and can handle whole or any section of modern plant management, including office control, engineering, planning, factory control, production, inspection; is available at once; would accept moderate salary to make connection with good concern. Have had wide lecturing experience and would also consider connection with first-class university. SM-5274.

ENGINEERING EXECUTIVE OR WORKS MANAGER; member A.S.M.E., having fifteen years' experience as executive with leading mechanical machinery and equipment concerns, including five years as works manager; now in military service, but expecting to be free June 1; desires position where can secure share in business; prefers new enterprise or to re-organize old establishment on modern basis. Eastern location preferred. SM-5275.

MECHANICAL ENGINEER (member), now assistant to general superintendent of large manufacturing plant, seeks new connection with progressive organization. Energetic, resourceful, practical, capable executive and systematizer with 18 years' varied experience; design (10 years directing others), engineering, production and various other functions of factory operation, chiefly in manufacture of general machinery, steam-power apparatus and allied lines. Age, 36. SM-5276.

MECHANICAL ENGINEER; technical graduate, married. Six years' experience in special machinery, locomotive and industrial-plant design, desires position with progressive company. Now employed by largest machinery house in West. Salary $2,700. SM-5277.

WORKS MANAGER OR SUPERINTENDENT, sixteen years' experience; shop work, designing engineer; inspection and production engineer, engineer in charge of machinery installation, assistant works manager. Graduate mechanical engineer. Age 37 years. SM-5278.

CANDIDATES FOR MEMBERSHIP

TO BE VOTED ON AFTER MAY 18, 1920

BELOW is a list of candidates who have filed applications since the date of the last issue of MECHANICAL ENGINEERING. These are arranged geographically. Applications for change of grading are also posted. The total number of applications received and listed below is 216.

The Membership Committee, and in turn the Council, urge the members to scrutinize this list with care and advise the Secretary promptly of any objections to the candidates posted. All correspondence in this regard is strictly confidential. Unless objection is made to any of the candidates by May 18, 1920, and provided satisfactory replies have been received from the required number of references, they will be balloted upon by the Council.

NEW APPLICATIONS

California

FRANKLIN, JOSEPH K., Mechanical Engineer, The Foundation Co., El Segudbo
HEMINGWAY, RANSOME L., Chief Boiler Inspector, Industrial Accident Commission, State of California, San Francisco
MCNUTT, JOHN F., Superintendent of Construction, U. S. Ind. Service, Los Angeles
PORTEOUS, EDWARD J., Technical Director, Celite Products Co., Lampoc
SIBBETT, GEORGE E., Mechanical Engineer, Columbia Steel Co., San Francisco
STEBBINS, HORATIO W., Assistant Professor, Leland Stanford Jr. University, Palo Alto

Colorado

BARNES, HAROLD B., Consulting Engineer, Denver

Connecticut

BAK, ANDERS K., Laboratory Assistant, Sheffield Scientific School, New Haven
BRAUN, JOHN L., Mechanical Draftsman, The Yale & Towne Manufacturing Co., Stamford
CHAPLIN, JOHN H., Works Manager, C. J. Root Co., Bristol
CLARKE, WILLIAM W., Plant Engineering, Bridgeport Brass Co., Bridgeport
EICKHOFF, AXEL, Designer, Babcock Printing Press Manufacturing Co., New London
FOWLER, ARTHUR U., Supervisor, Stanley Rule & Level Co., New Britain
HITCHCOCK, JAMES E., Assistant to Scheduling Supervisor, Winchester Repeating Arms Co., New Haven
LUTHER, HARRIS G., Draftsman & Designer, Lockwood, Greene & Co., Hartford
MCQUEENEY, JAMES T., Scheduler, Winchester Repeating Arms Co., New Haven
SNIFFEN, WILLIAM H., Industrial Foreman, Bridgeport Hardware Manufacturing Corp., Bridgeport
SOMERS, BRUCE K., Pratt & Whitney Co., Hartford
WALL, WILLIAM C., Foreman of Plumbing & Steam Fitting, Stanley Works, New Britain

Delaware

WILLIAMS, CHARLES H., General Superintendent, Pennsylvania Seaboard Steel Corp., New Castle

District of Columbia

BEHAR, MANOEL FELIX, 1st Lieutenant, Member of Technical Staff of the Chief of Ordnance, U. S. Army, Washington
DUGAN, JOHN A., Instructor, Mechanical Engineering Department, Catholic University of America, Washington
TICER, WILMER L., Mechanical Engineer, Supervising Architect Office, Treasury Department, Washington
WITMER, GEORGE S., Mechanical Engineer, Machinery & Engineering Branch, Office Director of Purchase, Q. M. C., U. S. A., Washington

Illinois

AINSWORTH, H., President, Williams, White & Co., Moline
BENNETT, WILLIAM H. K., Manager Pump Department, American Manganese Steel Co., Chicago
CAMPBELL, ROBERT H., 2nd Vice President & Production Manager, Comet Automobile Co., Decatur
JOHNSTON, ARTHUR C., Vice President, Link Belt Co., Chicago
MANTONYA, WILLIAM G., Assistant Chief Engineer, Shafer Bearing Corp., Chicago
PORTH, HARRY W. L., Master Car Builder, Swift & Co., Chicago
ROSE, HAROLD B., Chief of Drafting & Inspection, Avery Co., Peoria
SMITH, HAROLD C., President, Illinois Tool Works, Chicago

Indiana

MCNEELY, HARRY B., Routing Engineer, Link-Belt Co., Indianapolis
SWIGERT, WILLIAM K., Vice President & General Factory Manager, The Oakes Co., Indianapolis
WHEELER, VERNON C., Master Mechanic, Citizens Gas Co. of Indianapolis, Indianapolis

Kansas

STRONG, ROBERT G., Superintendent, Machine & Gas Engine Department, Empire Gas & Fuel Co., Oil Hill

Louisiana

COLOMB, CLIFFORD, Fuel Oil Engineer, Dixie Mill Supply Co., New Orleans
DAVIDSON, WILLIAM H., Manager, Machinery Department, Southern Jobbers' Supply Co., New Orleans
KURSHEEDT, EDWIN M., Half Owner, Mid-Continent Engineering Co., Shreveport

Maryland

LEHR, WILLIAM E., Manager, The Mergenthaler Co., Baltimore

Massachusetts

BROWN, GREGORY, Assistant Chief Engineer, Norton Grinding Co., Worcester
CHENEY, ROBERT B., Assistant, Massachusetts Institute of Technology, Cambridge
COLEMAN, THOMAS C., Jr., Tool Draughtsman, American Bosch Magneto Corp., Springfield
DAVIS, GEORGE H., Assistant, Production Department, Morgan Construction Co., Worcester
DULLIGAN, CHARLES E., Assistant Superintendent, Commercial Division, U. S. Cartridge Co., Lowell
ENO, ARTHUR A., District Engineer, Petroleum Heat & Power Co., Boston
EVERETT, ARTHUR C., Charge of Tool Design Engineering Department, Pneumatic Scale Corp., Limited, Roxbury
FAY, CHESTER H., Rolling Mill Designer, Morgan Construction Co., Worcester
FORD, ARTHUR R., Computer, General Electric Co., Lynn
FULLER, GEORGE F., President, Wyman, Gordon Co., Worcester
GANG, OLIVER F., Sales Engineer, Lunkenheimer Co., Boston
GILLIARD, CHARLES T., Inspector of Naval Construction, Boston Navy Yard, Boston
HENDRICKSON, FRED K., Chief Engineer & Designer, Reed-Prentice Co., Worcester
HEWITT, WILLIAM B., Mechanical Engineer, Worthington Pump & Machinery Corp., Holyoke
LAMB, HAROLD, Production Manager, The Lamson Co., Lowell
LEVINE, LEONARD I., Designer, General Electric Co., W. Lynn
RENTON, WILLIAM R., Industrial Engineer, Chapman Manufacturing Co., Winchester
ROBERTS, CLAUDE B., President, C. B. Roberts Engineering Co., Boston
SNOW, ALEXANDER I., Plants Engineer, Graton & Knight Manufacturing Co., Worcester
STRANGMAN, WARREN A., Engineer & Inspector, Underwriters' Bureau of New England, Boston
SUNDBERG, GILBERT C., Designing Engineer, Wyman-Gordon Co., Worcester
TRUE, WALTER A., Assistant Mechanical Engineer, Reed & Prince Manufacturing Co., Worcester
VAN DUSEN, CHARLES T., Graduate Student, Massachusetts Institute of Technology, Boston
WALKER, WILLIAM L., Management Engineer, Worcester
WHITE, WALDO E., Designing Draftsman, Revere Sugar Refinery, Charlestown

Michigan

ALLISON, FRED, Electrical Engineer & Superintendent of Power, Ford Motor Co., Detroit
BOLTON, FREDERICK R., Designer of Conveying Machinery, Hudson Motor Co., Detroit
EDWARDS ARTHUR P., Mechanical Department Engineer, Goodyear Tire & Rubber Co., Detroit
FURUSAWA, TAKESHI, Designing Engineer of Motor Trucks, General Motors Truck Co., Pontiac
JONES, MALVERN S., Tool Engineer, American Blower Co., Detroit
MARQUARDT, WILLIAM H., Superintendent, Continental Motor Corp., Muskegon
MARSDEN, WARREN S., Draftsman, Morgan & Wright, Detroit
Schlieder, HOWARD A., Cost Estimator, Detroit Pressed Steel Co., Detroit

Minnesota

FRANCIS, PAUL E., Testing Engineer, Armour & Co., South St. Paul
HILDRED, JAHN W., President & Treasurer, John W. Hildred Co., St. Paul

Missouri

WERNER, ELMER L., Plant Analyst, Goodyear Tire & Rubber Co., Kansas City

New Hampshire

GETCHELL, EDWARD L., Assistant Professor, New Hampshire College, Durham

New Jersey

ANGELILLO, OLINDA R., Plant Engineer, Murray Motor Car Co., Newark
BEYER, BERTRAND E., Press Department Manager, Elevator Supply Co., Hoboken
CONNOLLY, FRANK G., Chief Inspector, Electro Dynamic Co., Bayonne
FORD, CHESTER M., Master Mechanic, American Coffee Products Corp., Elizabeth
HEWES, OLIVER P., Assistant Power Supervisor, E. I. du Pont de Nemours & Co., Arlington
KING, DOUGLAS H., Designer, Gould & Eberhardt, Irvington
IRISH, WILLIAM W., Factory Engineer, T. A. Edison, Inc., Bloomfield
KIPPER, FREDERICK C., Chief Draftsman & Engineer, E. A. Briner, E. Orange
MCALLISTER, DAVID L., Cadet Engineer, Public Service Electric Co., Newark
MALAHAN, JAMES T., Superintendent of Valve Plants, Eastwood Wire Co., Belleville
RACK, EDGAR E., Assistant Manager, Precision Instrument Co., Newark
VOYSEY, ALFRED, Production Engineer, De-Laval Steam Turbine Co., Trenton
WELCH, ALBERT E., Power Engineer, Hercules Powder Co., Parlin (Re-Election)

New York

ALBERS, EDWIN N., Calculator, Engineering Department, American Locomotive Co., Schenectady
ALLEN, ARTHUR E., District Manager, Westinghouse Electric & Manufacturing Co., New York
BOILEAU, ARTHUR H., Erection Engineer, Kerr Turbine Co., Wellsville
BOLLER, FRANK J., Manager, New York Insulation Department, The Cutler-Hammer Manufacturing Co., New York
BRYMAN, HARRY, Mechanical Draftsman, Lord Construction Co., New York
CHENEY, JAMES B., President & Treasurer, Cheney & Co., Inc., New York
CONNOLLY, EDWARD A., Mechanical Draftsman, Sperry Gyroscope Co., Brooklyn
CUNNINGHAM, ROBERT O., Engineer, Ford, Bacon & Davis, New York
DAUTUN, ALPHONSE P., Draftsman, Julius Kayser & Co., Brooklyn
DELORENZI, OTTO, Testing Engineer, Combustion Engineering Corp., New York (Re-Election)
DEPP, PETER M., Sales & Field Engineer, Oliver Continuous Filter Co., New York
DEVINE, JAMES J., Instructor, Mechanical Engineering, Rensselaer Polytechnic Institute, Troy
DIX, HENRY N., Jr., Sales Engineer, American Radiator Co., New York
DONNELLY, RUSSELL, Sales Engineer, Hyatt Roller Bearing Co., New York
EBERLE, FRED H., Power Plant Designer, Atlantic Gulf Oil Refining Corp., New York

FIIGON, EARL H., Draftsman, Locomotive Superheater Co., New York
FOWLER, ELIHU W., Mechanical Engineer, James W. Cox, Jr., New York
GAY, WALTER C., Draftsman, DeLaVergne Machine Co., New York
GOODMAN, LESTER L., Sales Engineer, Beech Nut Packing Co., Brooklyn
HANSEN, HERMAN C., Tool Inspector, Presto Machine Works, Brooklyn
HOWARD, THORNTON W., Assistant Chief Turbine Inspector, General Electric Co., Schenectady
JORGENSEN, OLAV E., Consulting Engineer, Worthington Pump & Machinery Corp., New York
KOENITZ, ARTHUR C., Machine Designer, Research Department, Western Electric Co., New York
KUEMMERLEIN, EDWARD M., Chief Draftsman, Kerr Tubine Co., Wellsville
LAFETRA, CLINTON W., Chief Draftsman, Federal Adding Machine Corp., New York
LOUGHRAN, JOHN J., Assistant Chief Draftsman, Doehler Die Casting Co., Brooklyn
LUNDQVIST, ARVID, Designer, Ford Instrument Co., New York
MCNALLY, KEENAN J., Assistant Engineer, American Sugar Refining Co., Division of Plant Appraisal, New York
MITCHELL, LOUIS J., Mechanical Draughtsman, Interborough Rapid Transit Co., New York
NAYLOR, JAMES W., Assistant Plant Engineer, U. S. Light & Heat Corp., Niagara Falls
PAGE, ARTHUR A., Assistant Foreman, Tool & Fixture Department, Watervliet Arsenal, Watervliet
POHLMAN, ADOLPH, Long Island City
ROBBINS, HERBERT J., Sales Engineer, Doehler Die Casting Co., Brooklyn
ROTH, WILLARD E., Testing Engineer, Worthington Pump & Machinery Corp., Buffalo
SHINBROT, IRVING, Brooklyn
SMITH, FRANK W., Junior Designing Engineer, Locomotive Superheater Co., New York
SWANTON, ALLEN F., Editorial Assistant American Society Mechanical Engineers, New York
TIMMIS, PIERCE, Assistant Service Engineer, Westinghouse, Church, Kerr & Co., New York
WEED, IRVING, Construction Manager, H. Robbins Burroughs, New York
WHITE, BYRON E., Engineer, Utica Gas & Electric Co., Utica
WILLIAMS, JOHN H., Management Engineer, New York
ZEITLIN, HERBERT, Tool Designer, Metal Stamping Co., Long Island City

North Carolina

HENOFER, JOHN P., Mechanical Engineer, Mees & Mees, Charlotte

Ohio

AHLERS, J. A., Sales Engineer, Cincinnati Ball Crank Co., Cincinnati
AUGUSTUS, JAMES M., Laboratory Assistant, Aluminum Castings Co., Cleveland
COUGHLIN, WILLIAM J., Checker Tool Design, Ohmer Fare Register Co., Dayton
EVERHART, HAROLD S., Estimating Engineer, Jeffrey Manufacturing Co., Columbus
FIRTCH, WILLIAM H., Estimator, Jeffrey Manufacturing Co., Columbus
MCAUSLAND, ALFRED H., Engineer, Bailey Meter Co., Cleveland
MCCABE, FRANK E., Factory Superintendent, The Grabler Manufacturing Co., Cleveland
ST. CLAIR, CLINTON D., B. F. Goodrich Co., Akron
SELLERS, ERNEST H., Mechanical Engineer, Hoppes Manufacturing Co., Springfield
SPENCER, GEORGE H., Mechanical Goods Salesman, Goodyear Tire & Rubber Co., Akron
THOMAS, FIELDER W., Mechanical Engineer, Firestone Tire & Rubber Co., Akron (Re-Election)
VAN HAMMERSVELD, JOHN J. N., Designing Engineer, Warner & Swasey Co., Cleveland
WAGNER, EARL M., Special Representative, Lodge & Shipley M. T. Co., Cincinnati

Oklahoma

MORROW, THOMAS W., Jr., Sales Engineer, The Foxboro Co., Inc., Tulsa

Pennsylvania

BAUMANN, FRANK J., Mechanical Draftsman, The Barrett Co., Philadelphia
CAMPBELL, ARCHIBALD, Turbine Tester, Westinghouse Electric & Manufacturing Co., Essington
CARROLL, PHIL, Time Study Man, Westinghouse Electric & Manufacturing Co., East Pittsburgh
CLARK, CLARENCE P., Engineer in Charge of Construction, South Side Works, Jones & Laughlin Steel Co., Pittsburgh
COULT, CHARLES C., Draftsman, The Barrett Co., Frankford, Philadelphia
EICHHORN, THEODORE F., Experimental & Development Work, Westinghouse Air Brake Co., Wilmerding
FRAY, WILLIAM, Philadelphia Roll & Machine Co., Philadelphia
FRICK, CLIFFORD H., Supervisor of Operation, Hauto Steam Electric Station, The Lehigh Valley Light & Power Co., Hauto
HOPFER, CLOYD F., Draftsman, Koppers Co., Pittsburgh
LANIGAN, WILLIAM, General Manager, R. S. Newbold & Son Co., Norristown
NEWBOLD, RICHARD S., President, R. S. Newbold & Son Co., Norristown
NUZUM, BURL R., Chief Engineer, Hope Natural Gas Co., Pittsburgh
OBERLE, WILLIAM E., Engineer, Presidents Conference Committee, Federal Valuation of Railroads in the U. S., Philadelphia
TANNER, JULIUS R., Vice President & General Manager, Pittsburgh Valve, Foundry & Construction Co., Pittsburgh
TRUHAN, LEWIS J., Instructor in Experimental Engineering, Univ. of Pa., Philadelphia
VIGELIUS, F. W., Mechanical Engineer, Production Dept., Ingersoll-Rand Co., Easton
ZIMMERMANN, WILLIAM F., Mechanical Draftsman, The Barrett Co., Frankford, Philadelphia

Rhode Island

SCOTT, TOBIAS W., Chief Machinery Salesman, Brown & Sharpe Manufacturing Co., Providence

Tennessee

MCLAUGHLIN, OSCAR B., Superintendent, Lucey Manufacturing Corp., Chattanooga

Texas

LEE, WILLIAM H., Manager, Railway Division, Galena Signal Company of Texas, Houston

Virginia

ATWATER, WILLIAM C., Captain U. S. Engineers, Camp A. A. Humphreys
LEE, CLIFTON Jr., Senior, Lee & Lee, Richmond
MOSELEY, ISAAC N., Draftsman, Mechanical Engineer Office, N. & W. R. R., Roanoke
NORDEN, HENRY F., Estimating Draftsman, Newport News Shipbuilding & Dry Dock Co., Newport News

Washington

DEVLIN, LEROY, Manager & Owner, Devlin Lumber Co., Bangor
MURRAY, WILLIAM E., Chief Boiler Inspector, City of Seattle, Seattle

Wisconsin

BASSLER, EDWIN M. Sr., Vice President & Chief Engineer, Bayley Manufacturing Co., Milwaukee
GRIFFITHS, WALTER W. Designing, Allis Chalmers Co., Milwaukee
HEADSON, FRANK A., Manager, H. W. Johns-Manville Co., Milwaukee
JACKSON, CHARLES H., Sales Engineer, Bayley Manufacturing Co., Milwaukee
KOLB, WILLIAM K., Resident Engineer, Kimberly Clark Co., Neenah
SNYDER, WILLIAM F., Engineer in Charge of Power Plant, Consolidated Water Power & Paper Co. Stevens Point

Argentine

BURNS, ROBERT, Engineer, Otis Elevator Co., Buenos Aires

Canada

RUST, ELMER P., General Manager, Prince Rupert Dry Dock & Engineering Co., Prince Rupert, B. C.

Central America

AYAU, MANUEL S., Talleres Herlihy, Guatemala

Cuba

DEGOICOECHEA, LUCIANO, General Contractor, Cosculluela & Goicoechea, Havana
FLEDDERMANN, HARRY C., Supervising Engineer, Smith, Ames & Chisholm, Havana
MAYO, RALPH, Assistant Engineer, Cuba Cane Sugar Corp., Stewart

England

BENT, WALTER G., Manager of Works, Kodak Limited, Wealdstone, Mddlx.
HUMPHREY, HERBERT A., Consulting Engineer, Messrs. Brunner, Mond & Co., Cheshire

Territory Hawaii

LAKE, MINOR C., Assistant Chief Draftsman, Catton, Neill & Co., Ltd., Honolulu
LYONS, DANIEL A., Leading Draftsman, Honolulu Iron Works, Honolulu

CHANGE OF GRADING

PROMOTION FROM ASSOCIATE

Arizona

WALLACE, JACON H., Checker, United Verde Copper Co., Clarksdale

Connecticut

WIDERBERG, OSCAR A., Master Mechanical & Construction Engineer, American Steel & Wire Co., New Haven

New York

OWENS, CHARLES T., Assistant Chief Inspector, U. S. Shipping Board, New York

Pennsylvania

CONNELLY, CLIFFORD B., Commissioner, Pa. Department Labor & Industry, Harrisburg (Reinstatement)

PROMOTION FROM ASSOCIATE-MEMBER

California

NAESS, REGNVALD, Pacific Coast Manager, Phillippine Vegetable Oil Co., Inc., San Francisco

Colorado

LARSEN, CHARLES, Superintendent, The Denver Metals Co., Denver

Illinois

KIEFER, PAUL J., Assistant Professor Steam Engineering, University of Illinois, Urbana

Massachusetts

HALE, HENRY A., Jr., Senior Partner, H. A. Hall, Jr. & Co., Boston
LORD, HARRY C., Mechanical Engineer, J. A. Stevens, Lowell

Minnesota

NORELIUS, EMIL F., Consulting Engineer, Minneapolis

Missouri

MAGDEBURGER, EDWARD C., Chief Engineer, St. Marys Oil Engine Co., St. Charles

New Jersey

EVANS, GEORGE A., Assistant Mechanical Engineer, Public Service Electric Co., Newark

New York

BRENNAN, EDWARD M., Assistant Engineer, Union Seed & Fertilizer Co., New York

Ohio

HORTON, WILLIAM M., Factory Manager, The Kirk-Latty Manufacturing Co., Cleveland

Wisconsin

SCHERNER, JOHN, Superintendent of Power, Maintenance & Engineering, Federal Rubber Co., Cudahy

PROMOTION FROM JUNIOR

California

CRESSLER, GEORGE H., Captain, Ordnance Dept., U. S. A., Los Angeles (Reinstatement)

Connecticut

HART, LEON A., Efficiency Engineer, Hartford Automotive Parts Co., Hartford

Illinois

GUTHRIE, ROBERT G., Director of Tests, Widney Test Laboratories, Chicago

Maryland

SETH, GEORGE L., Chief, Mechanical Service, Mask Production Section, Edgewood Arsenal, Edgewood

Massachusetts

GIFFELS, JOHN E. W., Engineer, Haverhill Boxboard Co., Bradford
KLOTZ, HARRY J., Engineer, Stone & Webster, Boston

Michigan

LUCHT, FREDERICK W., Jr., Chief Engineer, Goddard & Goddard Co., Detroit

Ohio

FLANAGAN, WALTER N., Steam Engineer, Ohio Works, Carnegie Steel Co., Youngstown

Pennsylvania

KESSLER, HERBERT H., Special Engineer, Steacy-Smith Manufacturing Co., York
SPENCER, ROBERT L., Experimental Engineer, Bethlehem Steel Co., Bethlehem

Wisconsin

PETER, ALBERT G., Assistant Production Manager, Chain Belt Co., Milwaukee

South America

SERRANO, LUIS R., Assistant Engineer, Maestranzas del Ejercito, Santiago, Chile

SUMMARY

New Applications	189
Applications for change of grading:	
Promotion from Associate	4
Promotions from Associate-Member	11
Promotions from Juniors	12
Total	216